

# MITRE Partnership Network and Applied Anthropology

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Geneva Faraci

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Department No.: R504

Project No.: 01AOH624-MY

Location: Bedford, MA

**MITRE**

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Enough thanks cannot be given to Stan Drozdetski for recognizing that anthropology has a high degree of relevancy in the digital age. His guidance throughout this project has been wonderful and helped shaped this project into something I am proud to say I worked on.

To the co-ops and interns in the Collaborative Systems Lab, you allowed for me to pick your brains for ideas and because of this you all contributed to this project, so thank you.

# Table of Contents

Acknowledgements .....	ii
Introduction .....	6
Purpose .....	6
Methods .....	6
Findings .....	8
Competitive Research.....	8
Brainstorm and Sketches .....	9
Focus Group.....	16
Final Visualizations .....	16
Work Cited .....	18
Appendix .....	19
Appendix A: Informed Consent Form.....	19
Appendix B: Sample Questions .....	22

## List of Figures

Figure 1. Original Graphic from PowerPoint.....	10
Figure 2. Early Web Design .....	11
Figure 3. Web Design in Excel .....	11
Figure 4. Flow Chart.....	12
Figure 5. Subway Early Design .....	13
Figure 6. Comic Early Design.....	14
Figure 7. CSP comic .....	14
Figure 8. SFT comic .....	14
Figure 9. Island Map Representation .....	15
Figure 10. Updated Subway Map .....	17
Figure 11. Final CSP comic design.....	18

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## Introduction

MITRE, a not-for-profit research and development company, conducts much of its work with the U.S. government and other external partners. Communication and collaboration with the government and other partners has been conducted traditionally through email. To relieve MITRE employees and partners from the confusion that email can cause, MITRE created a secure workplace where MITRE employees and partners can communicate and collaborate on projects. Called MITRE Partnership Network or MPN, it provides multiple services for all parties to use.

The main services include Community Share Partners (CSP), CoDev, Secure File Transfer (SFT), Handshake, and Semantic Wikis. Community Share Partners is MITRE's external version of Microsoft's SharePoint, used primarily for document management. CoDev is a secure area for software development teams to maintain version control, collaborate and comment on code. Secure File Transfer is a file exchange system for exchanging large files without the limitation of 30mb attachments on emails. By sending file pointers through email as links, it simplifies the search for attachments. Handshake is a social networking platform that facilitates community building and sharing within the MITRE community and with partners. Finally there is Semantic Wikis, which uses the same platform as Wikipedia, and allows for structured content delivery.

Though there are many users of all these services, many employees are unaware of all that MPN has to offer. With the pilot launch of the MPN portal, users were given a central point from which to access all of MPN's services. Besides the portal, something else was needed to communicate the capabilities of MPN. Previous presentations given to MITRE employees and external partners about MPN had very confusing visuals and did not communicate its abilities well. To best create educational material, we needed to understand how MPN users interacted with the space and what it felt like to be a new user.

## Purpose

This purpose of this project was to create educational material for users of MPN so they could better understand the services it provides and choose one that best fits the project they are working on. These materials could also be used to demonstrate potential users the capabilities of MPN. My goal was to understand what it is like to be a new user of MPN and how MPN is being understood and used today at MITRE. I would then use this, along with competitive research on other web services to create visuals and material for MITRE's secure collaboration workspace. Along the way I would apply ethnographic or anthropological methods to the project.

## Methods

During the summer of 2014, I spent from late May to early August conducting my research as a summer intern. I was coming out of my second year as an anthropology major at Ithaca College. I wanted to be able to apply the ethics and ethnographic methods I had

learned in the previous years to my work at MITRE. I worked closely with my supervisor at MITRE, Stan Drozdetski, who is head of the MPN team. He collaborated with me throughout the project from the focus group questions to the designs.

Throughout my research I often sought advice from my methods textbooks, including H. Russell Bernard's *Research Methods in Anthropology* and *Writing Ethnographic Fieldnotes* by Emerson, Fretz and Shaw. I also used the notes from my ethnographic methods class I took this past spring with Dr. Sue-Je Gage at Ithaca College. Those guided me through the steps I needed to take to ethically conduct my research and gather information in a way that would help me analyze it. I gathered all my information in a color-coded notebook, which became the center of my knowledge for the project.

Coming into MITRE in May, I had a firsthand experience of consuming all the information MITRE introduced to me. I had a couple days to adjust to the culture shock before I dove in headfirst into this research. The first step of the project was logging into and using the MPN services for the first time. While navigating as a new user, I was taking screenshots and noting questions, suggestions and areas of confusions. Participant observation would best describe this process, because I was experiencing MPN for the first time (making all of my observations genuine). Understanding this experience is vital to be able to create content for new users. Competitive research was done in the same vein. We looked at various web services to see how they simplified the login process and well as how they explained their services to new users. This was documented through notes and screen shots; overarching themes were then summarized to apply to MPN.

In order to come up with new visuals for MPN, we needed to brainstorm and sketch up some ideas. This was done after pulling the pertinent information from previous visuals. We also looked at how other infographics were designed for social networks and data. Through hand drawn and digital whiteboard sketches, I drew up some ideas and fleshed some others out. Throughout this process, I collaborated with Stan Drozdetski and my co-workers to spin up new ideas and work off of old ones.

Stan and I also conducted some focus groups and interviews as a way to present these ideas to current or potential users to see what they understood about MPN. Stan Drozdetski gathered employees who had worked with MPN or could utilize it in their own work as well as people who had a background in communications. All participants were required to sign an informed consent statement where they could choose to have the interview taped or not [Appendix A].

We were under the impression that most of the people we would be interviewing had not heard of MPN or understood what it entailed. To gauge what they knew previously and see how the presentation was absorbed, we split the focus groups into three sections. The first 20 minutes was spent on pre-presentation questions, then the presentation of MPN was given. Afterwards, we reworded the previous questions to gauge how the presentation was absorbed. All of the questions can be viewed in Appendix B. We conducted a total of two focus groups and two interviews. All of them were dry runs but these gave us something to work off of when we started showing these interviewees some of the visuals we sketched up. The plan was to conduct more sessions to better understand current users, but due to time constraints we were not able to conduct more.



# Findings

## Competitive Research

Competitive research was approached from two different angles: account creation process and tutorials or explanations of services. The methods for both were the same, and from them we gathered different information we can apply to MPN. For account creation we look at Google, AirBnB, RAND, and Goodreads. For tutorials, we again looked at how the previous sites, some other sites and iPhone apps introduced their services to new users. Pulling major themes and trending ideas from competitors, we would then apply these to MPN. Most of these will ultimately be introduced to the MPN portal, to serve as an introduction and a pointer to additional information.

Account creation should be simple, and with the ability to log in with other accounts the process becomes seamless. MPN currently requires non-MITRE users to create separate accounts which can lengthen the process. Out on the web, one of the most common identity providers is Google. Google has a very extensive account creation process that steps the user through all the things the company needs to verify, including a phone number and profile photo. AirBnB, a crowd sourced bed and breakfast website, allows for easy sign up with other identities like Facebook and Google, or by creating an account. RAND, another research and development company, allows you to log into their public website with Twitter, Facebook and Google to access more information. Goodreads, a social book catalog site, also allows you to log in with Facebook and Google. All of these sites allow for users to easily create accounts with other identities. Currently with MPN, unless you are a MITRE employee, you need to be invited in order to make an account. We are currently working to allow partners and sponsors to easily create their own account with or without other identities like Google and Facebook.

To help new users get acquainted with the service, websites often have an interactive tutorial or documentation for first time users. MPN is working on creating such a tutorial, but we wanted to see how other services handle this task. Google, Google+, and Gmail have an interactive tutorial that takes you through all of their features. They send you emails when you create your account that give you hints as to how to start taking advantage of the service offerings. AirBnB has a “Getting Started” page split into two sections: one for those visiting and another page for those hosting. These are meant to help first time users understand their role in the AirBnB process. RAND has a “Why Should I Register” section on their frequently asked questions page explaining how their services could benefit the user. They continuously give the new user hints about how to use their services. Goodreads has you choose your favorite genres and 20 books you like, so that they can suggest books to you. They do not, however, show you how to manage books and bookshelves. We also looked at a couple other web services and iPhone apps. Class Dojo, a classroom management app, uses teachers’ stories in text and video form on their site to show how people are using their app. UPS, United Parcel Service, did a video series a couple of years ago where some of their services were explained through simple whiteboard drawing that the narrator would interact with. By using example of how UPS’s services could be utilized, it simplified the sometimes complex features of shipping. Wake, an alarm app, has four main ways of explaining their app. At the top of their website, Wake has a video of a user example that explains the features of the app. Below that there are three

important features of the app which clearly outline the purposes of the app with screen shots and a sentence or two explaining. They also have a page that explains the story of the app and why it was developed. Quotes from magazines and reviews are sprinkled throughout to further illustrate why this app is better than the rest, since this site is meant to be a giant advertisement for their application. Dollar Shave Club, a service that delivers men's razors monthly, is another example. Their site is simple: a video, three easy steps, customer quote. The video, also featured on TV, is very tongue-in-cheek but clearly explains their service in a humorous way. Below the video is their service summed up into three main steps. They simplify their ordering process in a similar way. Their site also has customer quotes to prove that their service is something worthwhile to invest in.

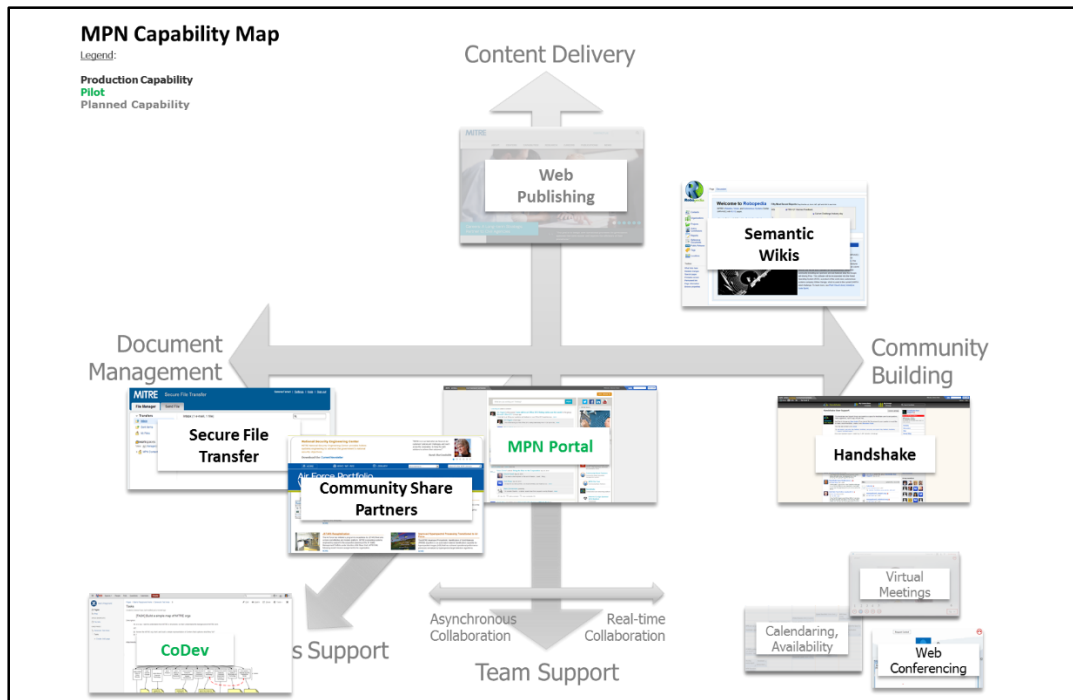
A video explanation of the site's purpose was a clear trend. The better ones tended to be funny, but still managed to articulate the points they were trying to make. This might be hard to do for MPN as it is a professional service, but a quick minute to two minute explaining what MPN is a must. Currently, the only video about MPN is a very stiff explanation of Handshake. The new video could feature a voice-over or a human explaining the concept (a la UPS whiteboard ads). A screen capture program could show some of the available services instead of listing them out, give a visual of the concept.

All of these services reviewed focused on the top three purposes of their product. Three is the magic number; it explains what a user needs to know at first glance. MPN could do a similar thing and hit upon their three main capabilities. But instead of being specific like "Handshake" and "SharePoint", be abstract with things similar to "collaboration" or "community". The problem right now is clarifying what MPN is to a larger audience without diving into a long explanation. Testimonials from MITRE users could help ease the trepidation of using something new and unfamiliar.

These main points can be incorporated into an infographic to explain what MPN is capable of. For example, Microsoft's OneDrive ran an advertisement that explained that cloud hosting could store many different file types. MITRE could do a similar thing, i.e. "with MPN you can..." giving examples of how the various services can be used. It could also be done by presenting a typical problem encountered prior to MPN's availability, and then show how MPN can address the issue. The idea is to motivate the users by showing them how their work could be more productive with MPN.

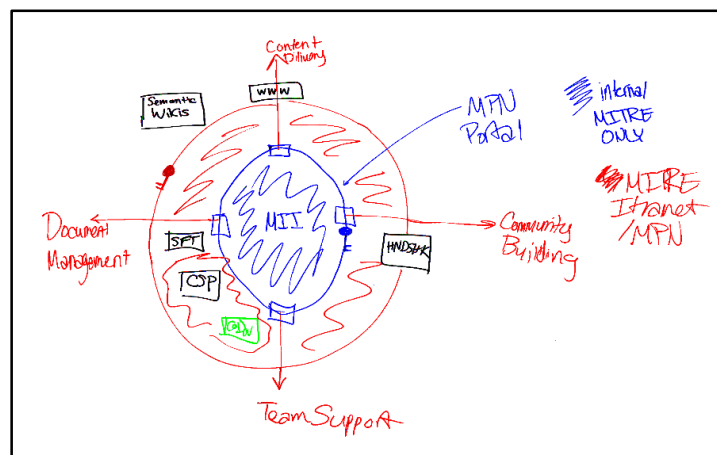
## **Brainstorm and Sketches**

The findings from the competitive research were then used to brainstorm ideas. When we began this project, I was shown some visuals that were being used in a PowerPoint that would be shown to MITRE employees who showed interest in MPN. A goal coming into this project was to redesign the main visual used to explain all the various sites within MPN. The initial presentation was confusing. There was a lot of information crammed onto one slide, and it was unclear how it was organized. In Figure 1, you can see the multiple axis chart of all the services, plus those that are important to MPN but not services directly included.



**Figure 1. Original Graphic from PowerPoint**

There were four main themes of the axis chart are: Content Delivery, Document Management, Community Building and Team Support. There were other characteristics that were less important to the message, and added to the confusion when explaining MPN. We needed to be able to show users where to look for a certain capabilities. This was the guiding idea: lead users to the services they need to solve their problems and help them make their work more efficient. When I was first given the task of redesigning this visual, it was suggested I look at spider webs as a way of showing the various capabilities of each service. I drew some as a visual representation of facts [Figure 2], whereas with others I used values to create a web in Excel [Figure 3]. These visuals were not appealing to start off with, and they could not be given to a user without a long explanation about how to read it. The visual needed to be self-explanatory or a familiar set up.

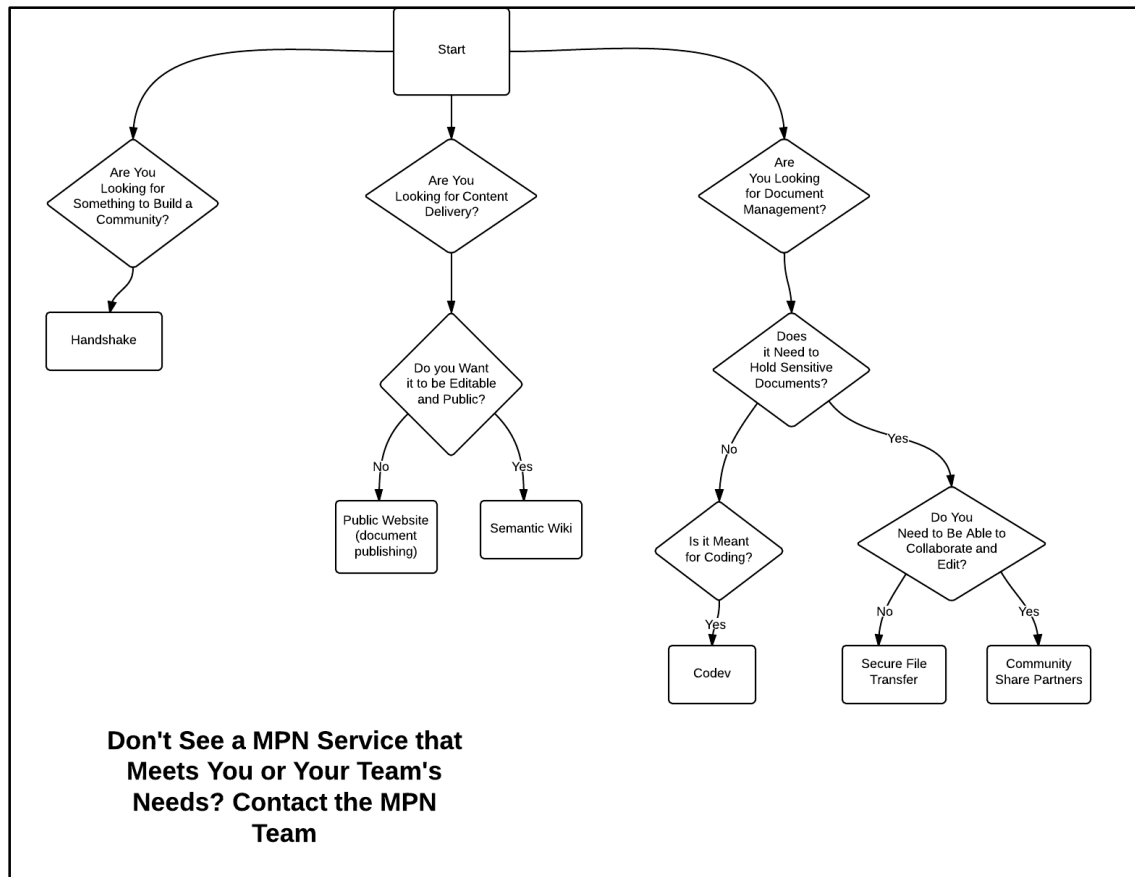


**Figure 2. Early Web Design**



**Figure 3. Web Design in Excel**

Instead of being vague, we went for a more direct approach. The presentation needed to be self-contained, in a likely event that someone from the MPN team was not available to present the MPN concept. A series of questions in a flow chart gave users the ability to navigate on their own through the MPN universe [Figure 4]. The information given about each service is minimal, but it gets to the main focus of each of them. If the user does not find the right service on their own, they can be encouraged to contact the MPN team.



**Figure 4. Flow Chart**

While the flow chart is interactive, using some of the same identifiers, I thought of another way to present all of the services, their capabilities and show how they all connect. I removed one of the characteristics so we could get down to a simple three, a number seen throughout competitors' advertisements. Using a subway map design, we created three lines, one for each of the characteristics [Figure 5]. The MPN services were represented as stops along the lines that best described them. So if one was looking for document management tools, they could look at the line to see the services that best fit that characteristic.

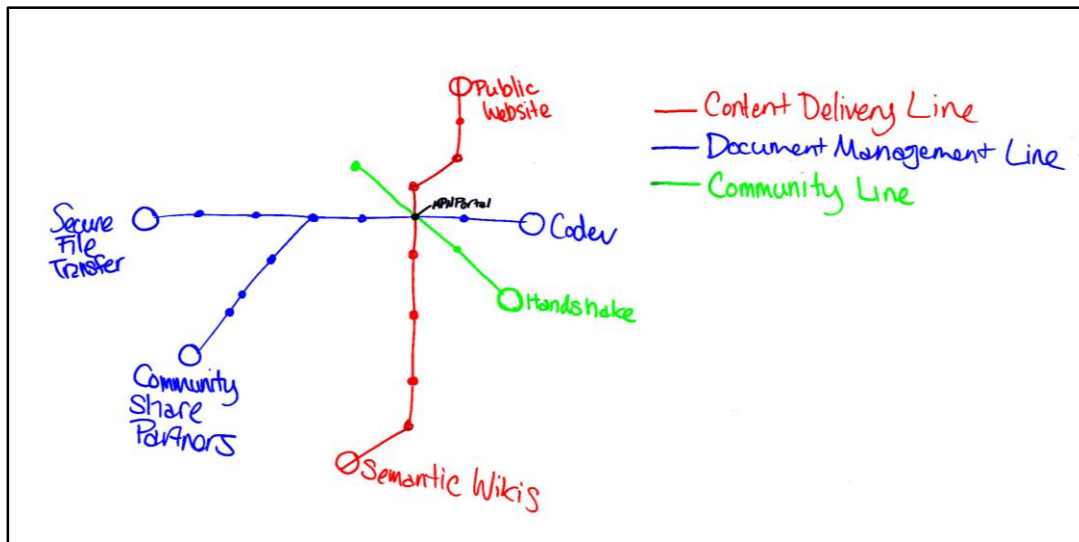


Figure 5. Subway Early Design

At the center of all the lines is the MPN portal, which connects all of the services together. This portal is hard to illustrate with some of the other designs that are focused on capabilities. The subway map exposes all of the services, their purpose and what brings them all together. Similar to the flow chart, users can focus on services that are more concentrated in document management than community-building, or vice versa.

A lot of the competitors used user stories to advertise and explain their product. Most of these user stories were fairly bland, either with quotes or long stories. To lighten the mood and make these a little bit more creative, I created a little comic that would explain, quickly, a user's story. For this I made up a MITRE employee (Tim) who would be working on various projects with his partner. The comic is broken up into two parts: the top half introduces Tim and MPN, the bottom half is an example about how one of the services is used [Figure 6]. In the first four panels, we are quickly introduced to Tim and his external partner. We see that they are having problems collaborating through email. They find MPN, which allows them to communicate and collaborate much more efficiently. At the end of the comic, a link leads the user to a series of these mini comics that explain how each of MPN's services can make one's work more efficient.

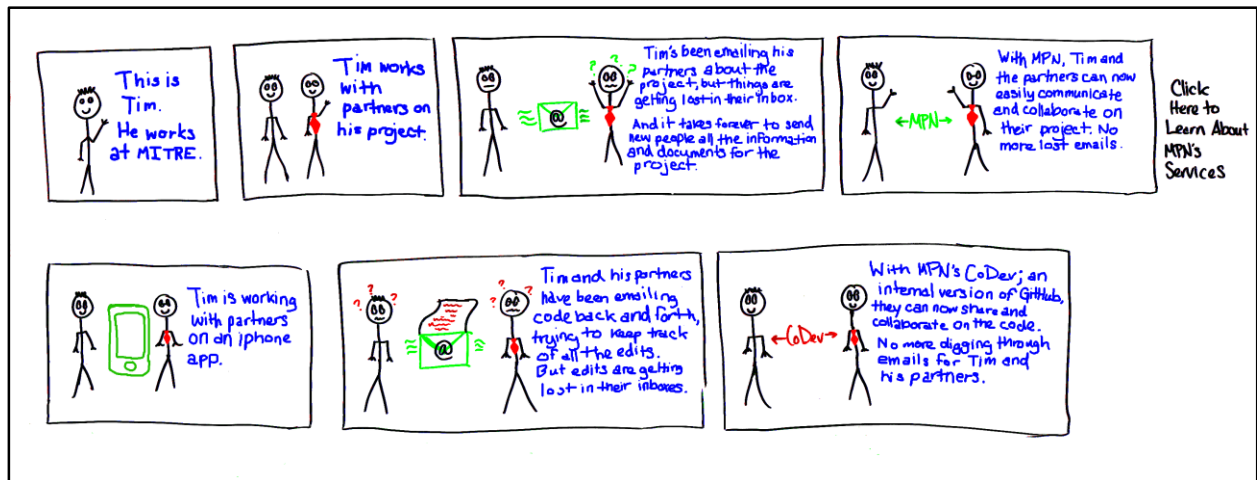


Figure 6. Comic Early Design

The second comic strip provides another example. Tim and his partner are working on an app, and have been emailing code back and forth. But with CoDev, losing track of code becomes a thing of the past. At the end of each of these comics (not shown) is another link that would guide users to the other comics. It would say something like "Is this the problem you are experiencing... no? Well then look at some of MPN's other services". This link would be there only if the comic was standing alone. Other comics were produced for Community Share Partners and Secure File Transfer in the same style [Figure 7 & Figure 8].

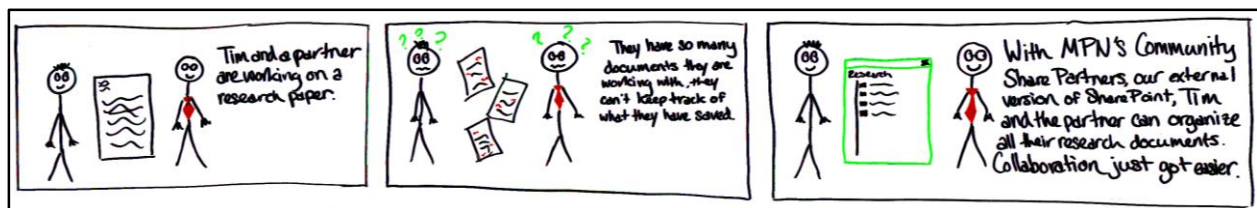


Figure 7. CSP comic

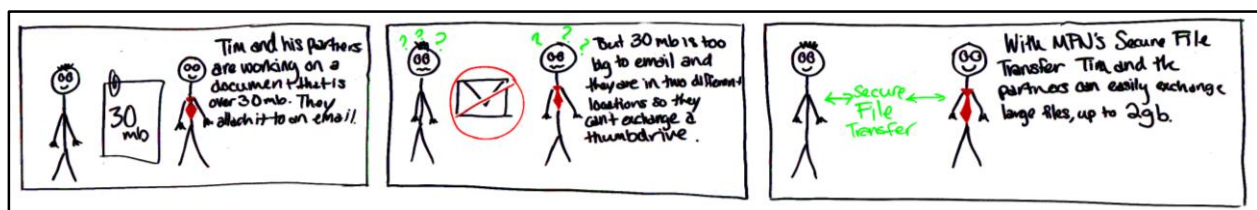


Figure 8. SFT comic

All the service/user story comics were kept to three panels: panel one is about the project Tim and the partner are working on, panel two presents the problem, and panel three explains how an MPN service can solve that issue. Keeping with the competitive research, boiling this comic down to three panels simplifies these services into information that is easy to grasp. These comics still allow, in a different way, for the users to pick the service

that best suits them. Instead of asking what you are trying to accomplish, like with the flow chart, we present what problems a user may be having to help other users see how the service could benefit them.

During a brainstorming session with Stan, we came up with a map idea where we could show a before and after view of MPN. The original sketch from the brainstorm is shown at the bottom of Figure 9. In the “before” shot, partners and sponsors live on islands that can only communicate with MITRE (the “mainland”) through email boats that must travel through the internet. After MPN was introduced, the partner and sponsor islands are connected to the MPN island through a bridge. The MPN island is surrounded by the protected wall of MITRE’s intranet. In order to enter into MPN, users go through the portal that connects them to all of the various services that exist on the island. There is no easy access bridge to the MITRE mainland since you need to be a MITRE employee past that point. This visual is fun but it could easily be confusing without any kind of explanation, that is why it is heavily labeled and there are little explanations for both scenarios.

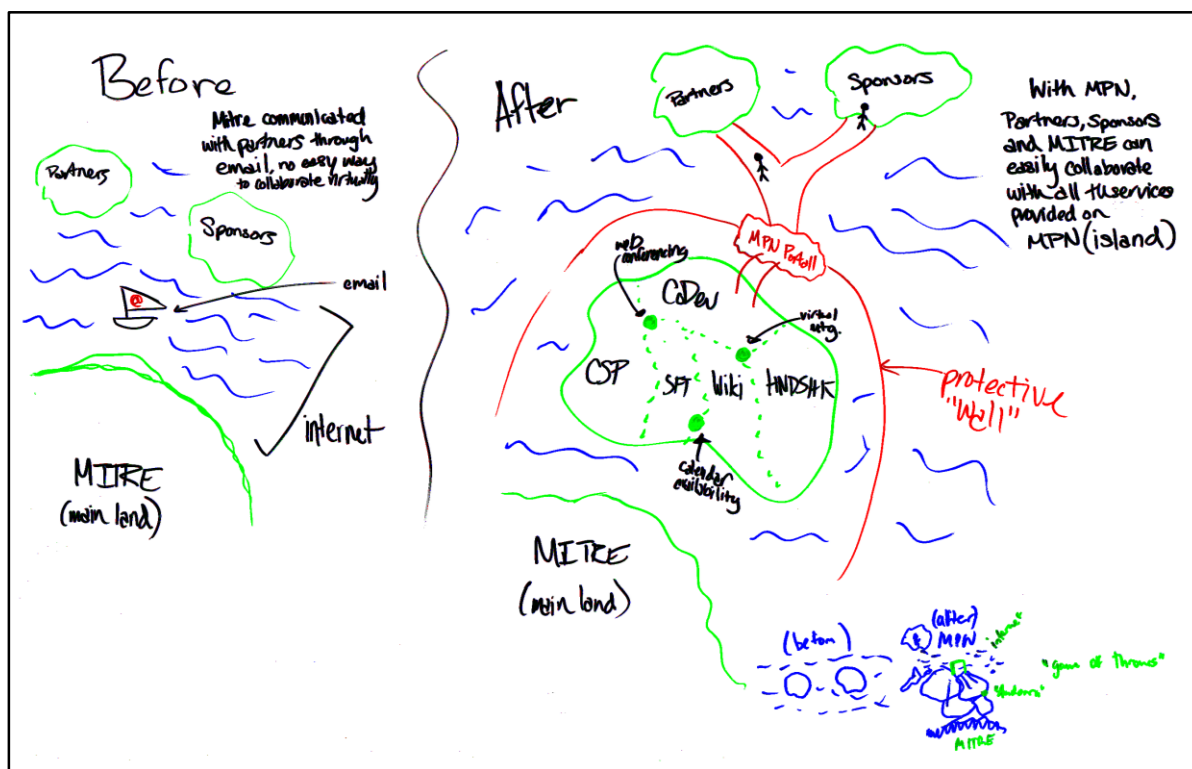


Figure 9. Island Map Representation

Outside of the featured representations, there were over 24 mockup of various ideas plus many others that did not make the cut. After showing many of these to Stan and to the focus groups, we concentrated on a couple, some of which were drawn cleaner. I will show the final versions of some of the drawings later on.



## Focus Group

From the two focus groups and two interviews, we gathered information that will help MPN grow and allow us to better understand what the users see when they look at MPN. The purpose of the interviews was to formally introduce MPN to people, as most people were unaware of what it really was though they had heard the term before. We started by asking people what they were using to collaborate and communicate with sponsors and partners. Most people were using email and phone to communicate, mainly because it was something that all parties were familiar with. Their focus was convenience and ease; they didn't need to introduce a new system to their partner or sponsor to learn.

We asked if people had heard of MPN before and most said they had heard of it. But when we asked what services were part of MPN most couldn't name more than one. Most people only recognized Handshake, but one recognized Secure File Transfer as well. The only service that has the MPN logo on it currently in Handshake, so these answers are to be expected. After the presentation we asked people what MPN was again, and they all summed it up in a similar way, that it was an overarching term for all the various services MITRE provides externally.

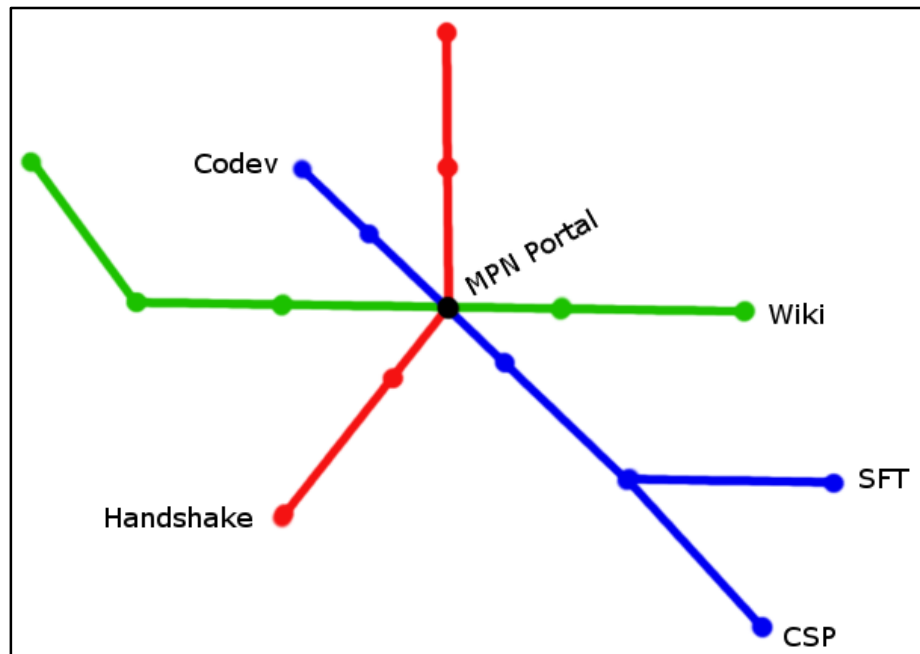
When we started asking what challenges MITRE employees foresaw when trying to get partners and sponsors to utilize MPN, they all said similar things, that it is simply about getting external people to utilize it. To partners and sponsors, it is something new, with a new password. It is another place where objects live for them. This is why they had chosen email in the past it was simple. Some said MPN needed better user onboarding, people had to see "what's at the end of the tunnel" (as one interviewee stated). This is where some of the visuals come in handy. This kind of visual content will show users what is available, and communicate "what is in it" for them.

Because we were unable to conduct more than four interviews and focus groups, the question will be available for MITRE to use once I leave. This way, the research that I began conducting can be continued. It would be nice to see what a larger audience thought of MPN, and run some of the visuals by a larger group. The team will continue interviewing partners and sponsors to get their perspective about MPN as well.

## Final Visualizations

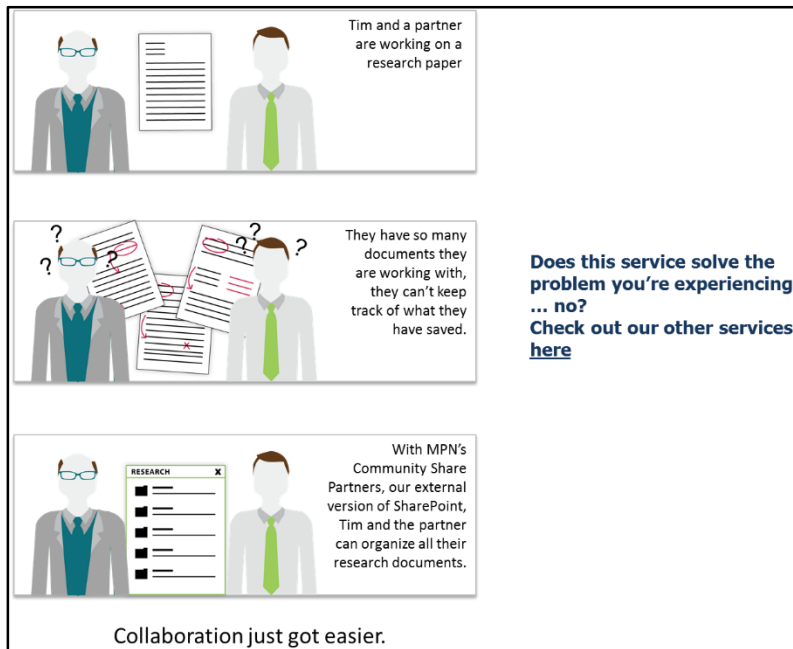
From the multitude of presentations, we narrowed the field down to three visuals: user story comics, subway system and the MPN island. First two were revised heavily; one design that wasn't was

the MPN island map [Figure 9]. If redesigned, the islands could mimic a real set of islands. The subway design was updated, but uses some of the acronyms we use for some of the services [Figure 10].



**Figure 10. Updated Subway Map**

It is a little less accessible since at least in this version I did not include the key as I did in the original. The colors have changed meaning so you cannot use the key from the previous version. For this version the green line is content delivery, the blue line is document management, and the red line is community building. The MPN portal still connects all of the lines together. This version removes the public website since it is technically not part of MPN. The comics, one the visuals that many liked, was partially finished. A majority of what is in the presentation is the original comics I sketched out. But the graphic designer was able to convert the Community Share Partners' comic into something that matches the other visuals in the presentation [Figure 11].



**Figure 11. Final CSP comic design**

These are the major visuals that we ended up selecting. All of these could either stand on their own somewhere on the MPN portal, or be featured within any of the services. They can also be easily incorporated into a presentation delivered via the MPN portal by either embedding a PowerPoint presentation into the site or using a shadowbox presentation. Either way, the visuals and the information I have gathered can be used further down the line after the internship is over.

## Work Cited

Bernard, H. Russell

2006. *Research Methods in Anthropology: Qualitative and Quantitative Approaches*, 4<sup>th</sup> edition. Oxford: AltaMira.

Emerson, Robert M., with Rachel I. Fretz and Linda L. Shaw

2011. *Writing Ethnographic Fieldnotes*, 2<sup>nd</sup> edition. Chicago: University of Chicago.

# Appendix

## Appendix A: Informed Consent Form

### MITRE Partnership Network and Applied Anthropology

1. Purpose of Study

The MITRE Partnership Network (MPN) concept covers MITRE's externally-facing collaboration tools. The purpose of the study is to have a better understanding of how MPN tools are perceived and used.

2. Benefits of the Study

This study intends to better understand how MPN is perceived by MITRE employees, and how it is implemented for collaborative projects. MITRE wants to supply users with the right material to help them adapt to and use all MPN has to offer. Outcomes of this study may be presented at an external conference, subject to MITRE's Public Release review.

3. What You Will Be Asked to Do

By volunteering for this study, you will be asked to do a voluntary interview where you will be asked about your work with non-MITRE partners. You may be asked to take part in one or two voluntary interviews during the study. If it is needed, the second interview would be a follow up with new questions that may arise during the research process. You will sign the consent form again for a second interview. Interviews are conducted at a neutral location or by phone at a time agreed upon by both the researchers and yourself. The interviews should last between thirty minutes and an hour, though times may vary. The interview is made up of 14 questions and a presentation on MPN. The interviews will be audio recorded with your permission.

4. Risks of the Study

The potential risks of this study are moderate. If participants discuss illegal interactions or reveal any information of which the researchers do not have security clearance for, there could be a risk of unemployment. If you have concerns about the sensitivity of information, or you feel uncomfortable all recording devices will be turned off. They will only be turned back on at your request.

5. If You Would Like More Information about the Study

Please contact the primary researcher, Geneva Faraci, by email: [gfaraci@mitre.org](mailto:gfaraci@mitre.org) or by phone: 1-6991. You may also contact Stan Drozdetski, the MITRE supervisor by email: [drozdetski@mitre.org](mailto:drozdetski@mitre.org) or by phone: 1-3324.

Participant's Initials: \_\_\_\_\_

6. Withdraw from the Study

Participation in this study is voluntary: you are allowed to withdraw your information and answers, as a whole or in certain parts, at any time during the study. You are allowed to omit answers given in interviews if you feel uncomfortable answering them. If you choose to remove yourself completely from the study, information given during interviews will be erased in all instances and will not be included in the final write-up.

7. How the Data will be Maintained in Confidence

All interviews, works in progress and analysis will be stored on a password protected laptop and a private journal. The journal it will stored in a locked cabinet in my office at MITRE. All participants will be given a pseudonym and any identifying characteristics will be removed. Details of the interviews and interviewees will only be discussed with my MITRE supervisor. No identities will be revealed in the final product.

For participants who agreed to be recorded, their audio files will be stored on the same laptop. All recordings will be deleted when the study is complete.

I acknowledge that I am 18 years of age or older. I have read the above and I understand its contents. I agree to participate in the study.

---

Print or Type Name

---

Signature

---

Date

I give permission to be audio recorded.

---

Signature

---

Date

**DO NOT SIGN NEXT SECTION UNLESS PARTICIPATING IN A SECOND INTERVIEW**

Permission for Second Interview

---

Signature

Date

I give permission to be audio recorded.

---

Signature

Date

## **Appendix B: Sample Questions**

### **MITRE Partnership Network and Applied Anthropology**

- What do you find the biggest challenge when collaborating with partners or sponsors?
- When you are working with partners or sponsors how do you share documents and information about the project?
- Why do you choose that platform? Does it differ depending on the project? Who makes this choice?
- Have you heard of MPN (MITRE Partnership Network)?
- What does that [MPN] mean or signify to you?
- Do you know what services it [MPN] provides?
- What does MPN mean or signify to you now [after presentation]?
- What, if any, MPN services have you used?
- Do you think MPN's services help or hinder your work production and why?
- Do you see any MPN services you could use to collaborate with partners or sponsors?
- What do you think might be the biggest challenge using MPN?
- What tools do you feel are lacking in MPN to facilitate collaboration?