"The Dark Sides of the Web"
Final Project Proposal Megan Hoogenboom

For my final project I want to focus on the dark sides of the net. The darknet Freenet and shadow websites. These different environments I will compare to each other in two ways. The first is to look at the designs of these places, and make style-definitions. These style-definition hold information about what the users do to make their website look like a darker website. The second way of the comparison is to focus on the user himself. I am going to investigate several elements of the users. The nicknames that are used in Freenet and what nicknames do users use in shadow websites, this could be a forum. The information they exchange, divide this into categories and at last map the limit of danger of this content. This mapping also includes the research if some nicknames can interpret certain content.
After collecting all this information, I will have all the elements to create my own darknet, based on a real darknet, Freenet and on the shadow web. My darknet will be as open and as closed as the above places, (i.e. a user name, or nickname and a password are required to log in and view the information and content, but anyone can join). This darknet can exist on Freenet itself, and/or as a shadow website.

There are different definitions for darker places online, but the resemblance of all these places can be defined as "Places on the internet which are not commonly accepted as normal places to visit". They are not commonly accepted because they are Not Safe For Work. The Urban Dictionary (2005) states: Not Safe For Work used to describe Internet content generally inappropriate for the typical workplace, i.e., would not be acceptable in the presence of your boss and colleagues (as opposed to SFW, Safe For Work). and people often only share their nicknames and no personal information to keep their offline identity secret. There are three definitions that are used to describe dark sides of the net: the darknets, the shadow net and the deep web. In the next parts I will explain these in some more detail.

As a graphic designer, I want to focus on the design of these dark places. What are the style-elements that are used, for example do they use dark colours, maybe to scare people off? These designs can be really specific and I want to make a style-definition for the deep web. I want to compare the shadow web to darknets. The shadow web are the findable places on the net, which search engines, which are not commonly accepted as 'normal' places to visit. This term is only used a few times, and has no referential definition. I created this term myself to describe these websites which people can find, but which are also part of a darker side of the net. The most reachable darknet is Freenet, which is fully explained further in the text. The first step in my research will be to find suitable shadow websites, and if possible, more darknets. What elements do they use to create a webpage, the fonts, the colours and the pictures. Are they suitable for every web browser and what is the format used? **The first main question in my research is: What are the design strategies and design elements used in the deep web?**

The second step in my research is to have a closer look at the user. In all my projects the user has played a big role, see the explanation of two of my thematic projects below. The user is not only user but also the creator of content in the deep web, for instance child-porn, illegal music, movies and games exchange on torrent sites and criminal actions online. The user is hiding behind a nickname in the deep web, and uses different tools to stay anonymous, like Freenet. **So the second main question, next to the design question is: What nicknames do the users create on different deep websites and what is the harm of the content they exchange?**

"The darknet – a collection of networks and technologies used to share digital content. The darknet is not a separate physical network but an application and protocol layer riding on existing networks. Examples of darknets are peer-to-peer file sharing, CD and DVD copying, and key or password sharing on email and newsgroups". (Biddle, England, Peinado and Willman, 2002.)

The first time darknets, with a specific definition, are mentioned is in an article by Biddle, England, Peinado, and Willman (2002). In earlier papers, Gibson (2000), there are speculations and assumptions that there is something like the dark side of the web, but they don't mention darknets as given networks. Gibson (2000) talks about how Whitelaw (1997) and his team mapped the dark side of the web, and how they found these places, and categorised them. Some of the categories were: pornography, fraud, anarchism, "freaking", virus creation, promoting violence, cyber terrorism and hacking. The team found a lot of the information on newsgroups. Newsgroups emerged from the very beginning of exchanging information via computers, starting with BBS, Bulletin Board System, Butler.

What exactly is a darknet or where is the dark side of the net? Different definitions are given to these words, and different words are used to describe it. Bergman (2001) talks in his "White Paper: The Deep Web: Surfacing Hidden Value" about the surface and deep web. He compares searching with a search engine to dragging a net across the ocean bed. There will be a lot of information about the ocean in the net, but there is more information in the deeper parts of the ocean.

The term deep web can be seen as an umbrella which covers everything that is not common on the internet. With common I mean, commonly known and accepted by the majority of people as normal or acceptable. In the deep web one can find the darknets, the closed networks and the dark places of the net, which can be websites with no links to other websites, abandoned websites, stolen URL's and so on. A darknet cannot be found with a search engine, because it is closed for non-users, Beckett (2009).

Bergman (2001) also states that the deep web was 400 to 550 times bigger than the surface web and receives fifty per cent more monthly traffic. He quotes Dr. Jill Ellsworth (1994) with the phrase "invisible web", which refers to information that is invisible to conventional search engines. This is another way to explain the deep web, but in fact it is inaccurate. With today's search engines and with surfing the web, these places are not hidden anymore.

With Freenet, created by Clarke (2000), you can visit the dark side of the web without being found, you use the net anonymously, Becket (2001). According to their own website Freenet is: "free software which lets you anonymously share files, browse and publish "freesites" (web sites accessible only through Freenet) and chat on forums, without fear of censorship. Freenet is decentralised to make it less vulnerable to attack, and if used in "darknet" mode, where users only connect to their friends, is very difficult to detect".

Freenet is an application which is also used by people who mean harm or want to distribute illegal information or content. It can be defined as a darknet. When Beckett (2009) explains the application, he defines it as when you install it on your computer, you can enter a previously hidden world. The content available on Freenet differs from the "Iran News" to the "The Terrorist's Handbook". Ian Clarke, Beckett (2009), admits that there is child-pornography on Freenet, but he states that if he would modify Freenet, it would be the end of it. He tried to get rid of it by installing a filtering-virus, but this didn't work because of copyright issues and because of the fact that other users who used this became virus targets. The Freenet will play a big role in my research, it is actually the starting point of my research to darknets and their design and content.

Beckett (2009) not only talks about Freenet and other darknets. He also quotes the Metropolitan Police: "A lot of internet criminal activity is on online forums that are not hidden, you just have to know where to find them". By which they mean the shadow web. Hence, a comparison between shadow websites and darknets, with emphasis on their designs and users, will be a focal point of research in this project.

Next, I want to take a step back from being the user of the internet. Making people more aware of what this medium is doing and make the users more aware of themselves and of others. The user must be made more aware of the shadow web, the deep web and the darknets and what content one can find there - they must leave their

fears and phobias behind. I want to communicate that there is more than the surface web, the user can use Freenet and doesn't have to be afraid the end up at a forbidden website, they can be anonymous.

I read an article (Klaver, 2009) that young people don't surf the web anymore, and can't search properly for something they need. Is this because the surface web is getting more and more commercial? Or because the hidden deep web is getting more and more hidden? Beckett (2009) talks about the commercializing of the internet, and that because of this the darknets are getting bigger and used by more and more people. But the people who don't know where to find these places or don't know their existence, are also important to reach, not only the users.

This project will first serve as a guideline for the users and non-users and secondly as a promotion against censorship and commercializing of the internet.

With my first thematic project at the Piet Zwart Institute, I looked at abandoned spaces online, and in my essay I compared these spaces to abandoned spaces in the physical world. The user was very important is this project, although the basic element was that the user was no longer present, and another element what was the effect of this abandonment.

The outcome was an online book, which contained all the elements of 6 abandoned websites taken apart. I researched the elements and looked at the design, that made a website into an abandoned website. I showed of each website a screen-shot, the domain-name, links and parts in the HTML-code, the meta-data of the images and the part where you can see that this website is abandoned. At the second part of the book I made a template on how to make your own website look abandoned. This is because a lot of people use online, standard templates for their own website. And with this template you can make your website look unique, with a new approach. This last element will also play a big part in my final project: the template or style-definition to certain websites.
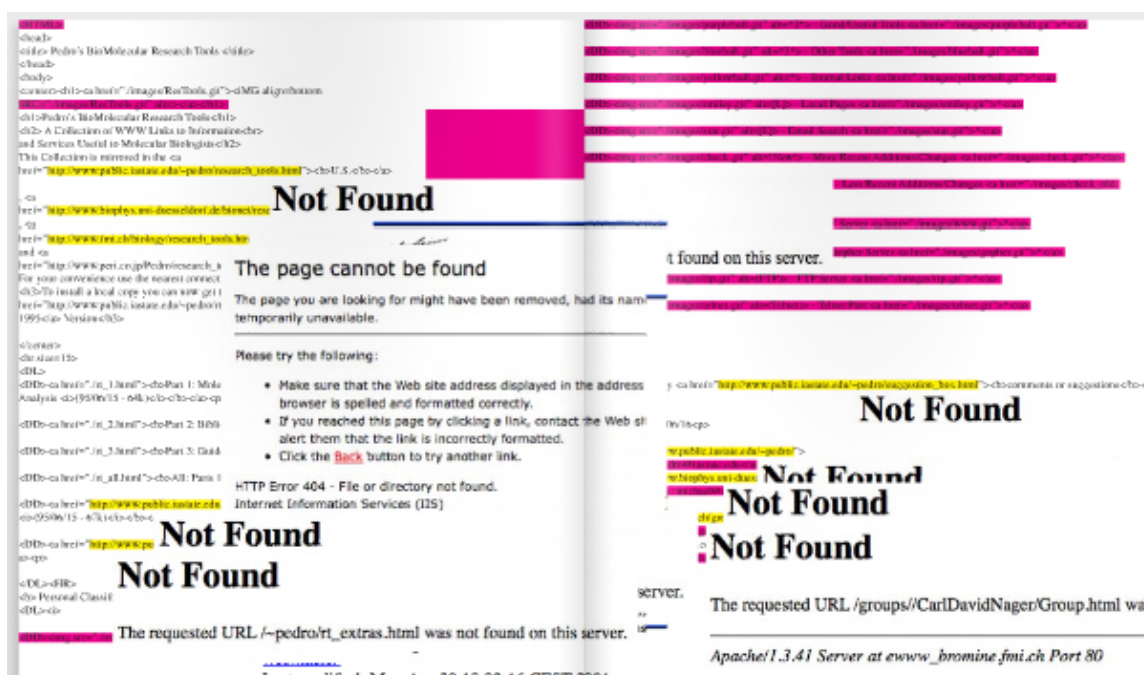

Image 1: A spread from the book "Online abandoned spaces." [online]. Avaiable at:
<http://issuu.com/onlineabandonedspaces/docs/template_boek2_lossepaginas_vooronline>

The abandoned websites cover an alternative place on the net. These places are hard to find, you can only reach them by surfing the net, not by searching with a search engine like Google. Because these places are somewhat hidden, they become more interesting and special.

In the last thematic project before the final project, I already wanted to focus on dark(er) places. The projects were situated in a Rotterdam Belhuis: 'Ace Teleboutique' (this is a sort of internet-cafe, they have phones to make cheap international calls and cheap internet. Often the computers are old and not clean). In focus of my final project I chose to focus on the darker sides of these Belhuizen. So, I made a fake research poster and flyers to the bacteria that exist in these places. Keyboards are known to be dirty, and a breeding place for bacteria. I search the net for researches to bacteria that were found on keyboards, public phones, handles in public places and counters of stores. These were all real research-projects, posted online and I used them like they were performed in the Rotterdam Belhuizen.

The poster design was based on the design of different periodic tables of the elements. These posters are very well designed, with a special function for each placing and form. The fact that I used this design will also be an element in my final project. If I make a website or a user-profile on Freenet, it has to be designed like the other darknets and shadow websites.
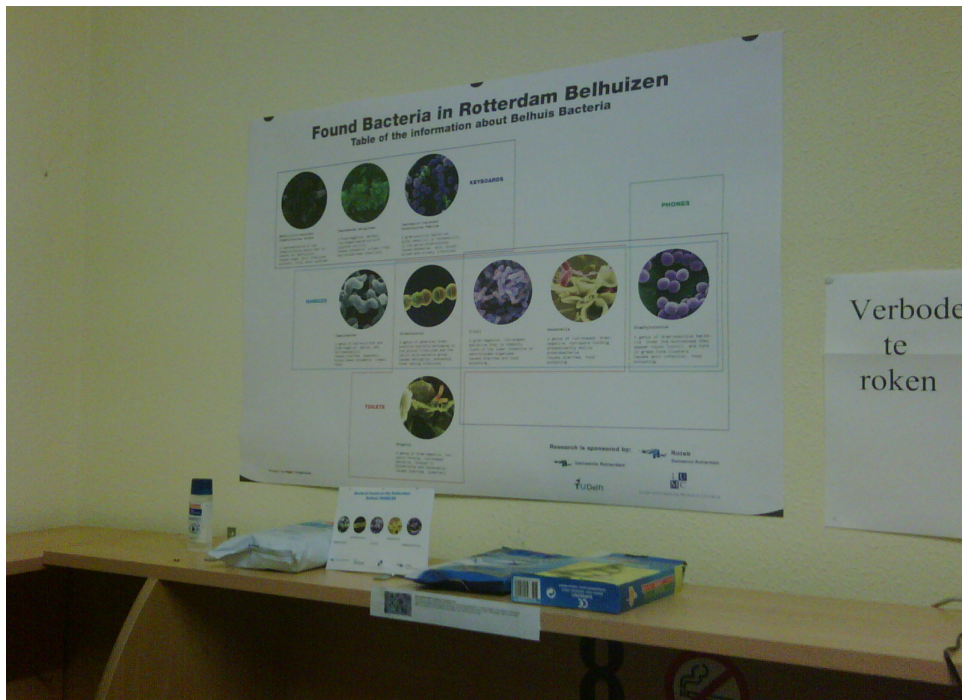
Image 2: The poster of the "Found bacteria in Rotterdam Belhuizen", On the counter there are cleaning wipes and disinfecting soap.
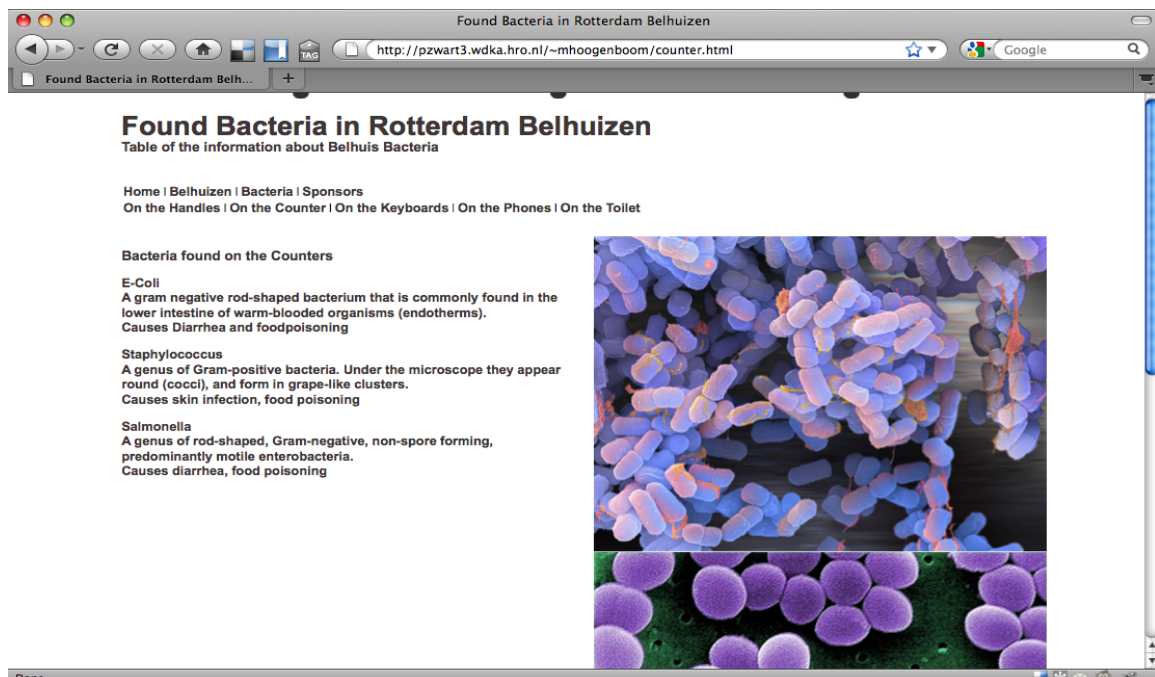

Image 3: A screen-shot from the accompanying website to the project. This website was also available to visit in the Belhuis exhibition. http://pzwart3.wdka.hro.nl/~mhoogenboom/counter.html

In both projects I gathered information, edited it and gave it back to the users. But I also did something else, a small add-on to the project. This is an important element to implement in my final project, when I have a finished project always see if I can make an add-on to give the project more meaning and power, to take it a step further.

For my final project I want to compare two different dark sides of the net to each other. These two are the Freenet, a darknet created by Clarke (2000) and shadow websites. The Freenet is a closed network, which one can join by a log-in and answering a few security questions. Shadow websites are websites that are findable via search engines and are only often closed, like forums. The comparison between these two places will start by the design and lay-out of the pages, and all the elements used to make it look like a dark website. The second part of the research and comparison is to focus on the user, the nicknames and the content they provide (from forum-topics to torrents). After gathering this information I will have all the elements to create my own darknet, in the shadow of the web. The essence of this project is to provide content to other users of the net, who maybe don't want to enter a closed world like Freenet. The world wide web is becoming more commercialized, and because of this the darknet is becoming more interesting for people to have a voice or exchange information. My first thematic project at the Piet Zwart Institute was about abandoned websites, and I wrote an essay in which I compared physical abandoned spaces to online abandoned spaces. These online abandoned spaces can also be seen as online dark spaces, just like the abandoned spaces in the physical world. Once the user has left the website behind, it begins to change. The user was important in his absence in this project, and in my final project the user will be important in his hiding behind a nickname and the content he provides and exchanges. My last thematic project was about the bacteria in a Rotterdam Belhuis. I made a fake research-project about this. A project like this can be seen to make people more aware of their environment, or maybe create a fear, or even a phobia, by naming the bacteria. This is also an element that will be of importance in my final project, the naming of the available content. And, like I mentioned before: this project will first serve as a guideline for the users and non-users and secondly as a promotion against censorship and commercializing of the internet.

References

Websites
Brightplanet, 2010. *About the Deep Web*, [online]. Available at: <http://www.brightplanet.com/>

Deep web wiki, 2010. *What is the Deep Web?,* [online]. Available at:
<http://www.deepwebwiki.com/wiki/index.php/What_is_the_Deep_Web%3F>

Freenet, 2010. *What is Freenet?,* [online]. Available at: <http://freenetproject.org/whatis.html>

Urban Dictionary, 2005. *NSFW,* [online]. Available at: <http://www.urbandictionary.com/define.php?
term=nsfw>

Books
Chun, W. H. K., January 2006. *Control and Freedom, Power and Paranoia in the Age of Fiber Optics.* London,
England: The MIT Press.

Online Articles
Biddle, P. England, P. Peinado, M. and Willman B., 2002. *The Darknet and the Future of Content Distribution,*
[online] 18 November. Originally published [online]. Available at:
<http://www.crypto.stanford.edu/DRM2002/prog.html>
Microsoft Corporation, 2002 ACM Workshop on Digital Rights Management [online]. Available at:
<http://www.bearcave.com/misl/misl_tech/msdrm/darknet.htm>

Seijdel J., 2010. Beyond Privacy, New Perspectives on the Private and Public Domains*, Open,* [online]. Available
at: <http://www.skor.nl/artefact-4808-nl.html?lang=en>

Andrews, S., 2010. Analysis: The dark side of the web*, PcPro,* [online] 9 March. Available at:
<http://www.pcpro.co.uk/features/356254/the-dark-side-of-the-web>

Bergman, M. K., 2001. White Paper: The Deep Web: Surfacing Hidden Value, *JEP the journal of electronic
publishing,* [online] August, volume 7, issue 1. Available at: <http://quod.lib.umich.edu/cgi/t/text/text-idx?
c=jep;view=text;rgn=main;idno=3336451.0007.104>

Butler, K. S*imple guide to news servers/net mail groups.*[online] Available at:
<http://members.tripod.com/~kevin_butler/newsgroups.html>

Mansfield-Devine, S., 2010. Going over to the dark side, *Webvivant Computer Fraud & Security*, [online].
Available at: <http://www.webvivant.com/feature-darknets.html>

Howe, J., 2005. The Shadow Internet, Wired [online] Issue 13.01, January. Available at:
<http://www.wired.com/wired/archive/13.01/topsite.html?pg=1&topic=topsite&topic_set>

Bechar-Israeli, H., 2006. From 〈Bonehead〉 to 〈cLoNehEAd〉 : Nicknames, play, and identity on internet
relay chat, *Journal of Computer-Mediated Communication*, [online] Volume 1, Issue 2, June. Available at:
<http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.1995.tb00325.x/full>

Online Newspaper Articles

Gibson, M., 2000. Uncovering the Dark Side of the world wide web. *Financial Times,* [online] 20 October. Available at: <http://cryptome.org/dark-spy.htm>

Beckett, A., 2009. The dark side of the internet. *The Guardian,* [online] 26 November. Available at: <http://www.guardian.co.uk/technology/2009/nov/26/dark-side-internet-freenet>

Klaver, M., 2009. Jong en oud verdwaalt op internet. *NRCBlog,* [online] 6 August. Available at: <http://weblogs.nrc.nl/klaver/2009/08/06/jong-en-oud-verdwaalt-op-internet/>

Wright, A., 2009. Exploring a 'Deep Web' That Google Can't Grasp. *The New York Times,* [online] 22 February. Available at: <http://www.nytimes.com/2009/02/23/technology/internet/23search.html?_r=2&ref=business>

Others

Urban Dictionary, 2005. *Not Safe For Work.* [online] Available at: <http://www.urbandictionary.com/define.php?term=nsfw> Used to describe Internet content generally inappropriate for the typical workplace, i.e., would not be acceptable in the presence of your boss and colleagues (as opposed to SFW, Safe For Work).