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Accessing the hidden word

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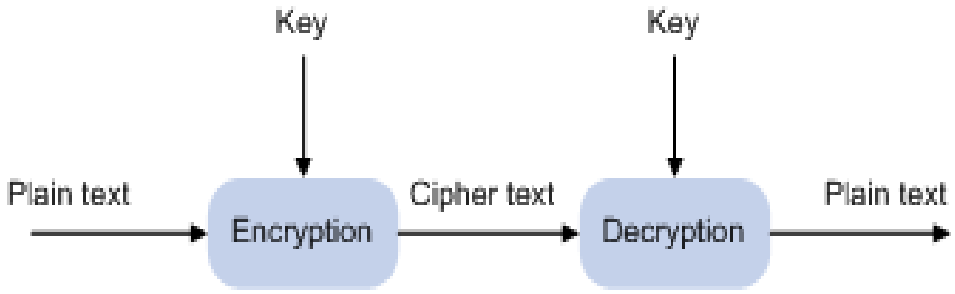
Motivation

In my previous work and research on the human voice and the way it's transmitted via electrical means I stumbled upon the vocoder. The vocoder is a method of speech synthesis, it is used and overused in pop music today. What fascinated me the most is the fact that the vocoder was initially developed to send encrypted messages during world war 2 since it was part of the Sigaly speech encipherment system. The vocoder is not the only piece of wartime equipment that has made its way into pop music, but the fact that it is used for improvement or alteration of the human voice is what separates it from the rest.

I have always been curious about encryption and algorithms in general, since this is an obvious curiosity people have regarding solving mysteries and finding patterns.
However, this is an increasingly important aspect of modern interaction. In digital communication algorithms play a crucial role especially in accessing or creating secure networks.

I am also fascinated by transformation of text and speech, where for example normal plain text is being completely encrypted and transformed into a cipher text, and decrypted again for information to become hidden from anyone but a few.



From the idea of sending encrypted messages in sound also came the fascination of using sound as a carrier for other media. As I have done earlier with my Wikileaks radio project but this time more focused on an actual transformation from sound to computer files.
I want to investigate the possibilities of modern sound processing and thus using the radio to distribute digital content. Similar to the Comodore Datasette where the computer's digital information was converted into sound and stored on ordinary tape cassettes. Before any improvements were made in this field a Datasette could store 100kBytes per 30 minute side, in theory a Radio transmission of 30 minutes could transmit the same amount of data.

In researching alternative methods of distribution, encryption and creating an alternative secure network, I will use elements of fiction and scenario in order to produce a solid reason in why these alternatives could be used. Using fiction will also enable me to critique existing networks. For example the Anti-Counterfeiting Trade Agreement (ACTA) is a trade agreement to enforce intellectual property rights on an international level. Basicaly ACTA is designed to stop file sharing of pirated material and to further regulate online communication. Although ACTA is not yet active, we could easliy envision a scenario where ACTA or its future counterparts have made internet based communication as we use it today unusable. In such a scenario there could be a need for an alternative network using technologies at hand. The reason I am interested in alternative networks and media is because I see different functions for them. By envisioning a scenario where these networks are a valid sollution to a certain problem, I can further explain what differentiates these networks from existing ones. The role of radio and its fleeting and distance related nature play a crucial role in designing such an alternative network. Both these aspects are in some way opposites to methods of control.

Previous work

Free Wikileaks Pirate Radio

A radio based work that was partly a radio broadcast and partly a web browser tool for automatically broadcasting Wikileaks content. The radio broadcast was done by a simple FM transmitter. The automatization part consists of a Firefox web browser plug in. Whenever the user of this plug-in visits Wikileaks or one of its backups, the plug-in automatically sends the Wikileaks text document to a hidden part of the translate.google.com website. Here the text is automatically converted to speech and spoken in a robotic manner. The combination of fm-transmitter and text to speech automatization enables for easy broadcasting of Wikileaks content. The first broadcast of Wikileaks material was done at a moment of much heated debate on shutting down Wikileaks servers.

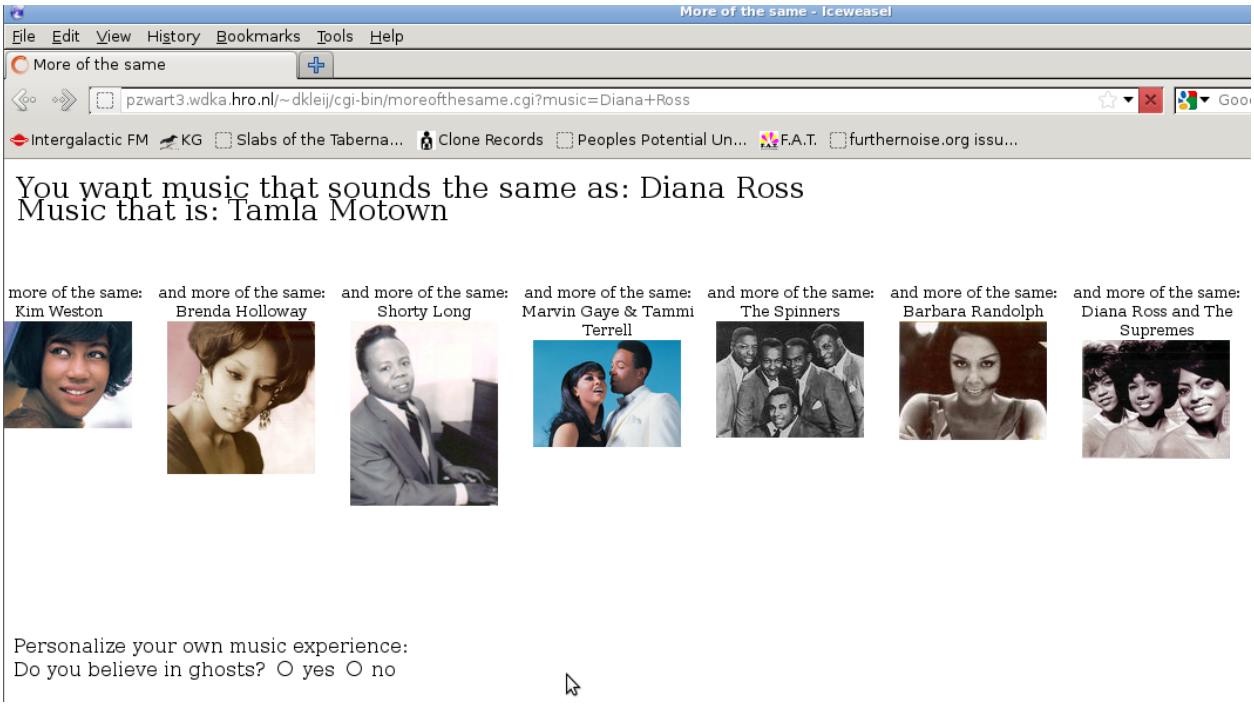
To successfully broadcast Wikileaks content at the Speed show, I had two requirements. One the process had to be automated as I didn't want to present a performance piece. Two the project had to be run on the Belhuis computers where the Speed show was held. I opted for a Firefox plug-in that would automate the process, which I wrote using Greasemonkey, Jquery and Javascript. This script would redirect the Wikileaks content to the Google translate text-to-speech website, so that it was spoken out automatically once you visited the Wikileaks page. For transmission I used a standard FM transmitter, normally used in cars to broadcast from your mp3 player to your car radio. This transmitter was simply connected to the speaker port of the computer.

At the time there was a lot of discussion and on the taking down or backing up of the Wikileaks servers. Which I thought was rather trivial since the Wikileaks content had been up for a while. In my opinion it was the same as taking down the original source of a pirated movie. Once the movie has been downloaded by someone, it can be reproduced and distributed again. Because of the reproducibility of all digital material, the source has fewer value then with analog material. If the Wikileaks server would ever be taken down, the holders of downloaded Wikileaks material could recreate it. The concept of medium was also very important to me. Nowadays the average computer user also has access to some form of printer, thus if anyone had downloaded Wikileaks content it could be printed. I chose radio because it is one of the most fleeting media, it happens only at a certain time but it can be picked up by anyone within transmission radius.

More of the same

More of the same is a music recommendation website that uses and abuses the Last.fm database. When visiting More of the same, the visitor is presented with typical web 2.0 style logos and a search bar for his initial search. The user can enter his favorite band, and after clicking 'I want more' the visitor is presented with a 100 to 200 new recommendations. These

recommendations are presented in one horizontal bar of thumbnail sized images accompanied by the text ‘if you like’, ‘then you also like’ and 'more of the same'. At the end of this line is a YouTube clip of the least relevant recommendation. The visitor can then further specify his musical taste by filling out a survey style question. After answering even less relevant recommendations are given, with again the least relevant being played as a YouTube clip, accompanied by a new question. This process can loop endlessly if the user keeps answering the survey questions.



I wanted to make a statement against music recommendation websites. Music recommendation websites are made to recommend their users music that they like but the way this recommendation is constructed means that everything is based on keywords, genres and other peoples listening behavior. This results in getting a lot of the same music, mostly music that you already know. More of the same does almost that, it presents the user with an overload of music recommendations, mostly based on genre and keyword similarities. However there are moments where is it falls of the map completely, presenting you with music that is somehow an error in the Last.fm database or music that is made by amateurs that somehow made it’s way unto Last.fm or Youtube.com. This has led to More of the same to be a very surprising and sometimes very odd user experience.

The schizophonic search

An interactive multichannel radio piece. Spoken messages on the schizophonic and deathly nature of radio are hidden within the FM radio spectrum. The user is invited via a small list of instructions to pick up a small transistor radio with headphones and search for these messages by turning the radio's tuning dial.
My interest in the electronic reproduction of the human voice has led me to the word of schizophonia. Schizophonia is a term coined by Canadian writer and composer R.Murray Schafer and it means the disconnect between what you hear (the electronically reproduced voice) and what you see (the movement of the human mouth).
I used 4 FM transmitters to transmit audio on 4 different bands within the FM spectrum. The transmissions included cut ups and sound collages of spoken material from R. Murray Schafer. To heighten the idea of finding voices I mixed the content of one broadcast with small excerpts of the other broadcasts. For example, If the listener would tune in to a certain channel, he could sometimes hear very soft voices of another channel in the background.
By suggesting the possibility of hearing voices on the radio, I saw the Schizoponic Search as a way to experiment with the perception of a work of sound art. The broadcast frequencies are hidden so there is an element in which the user does not know where the work ends and where it begins. Playing with the intrinsic nature of man to recognise and find patterns, thereby further connecting the term schizophonia to its origin of hearing voices.

Relation to previous work

My research until now has related to my previous work in various ways. As I did with Free Wikileaks Pirate Radio and the Schizophonic Search there is a material aspect in which I research and reinvent old media. By using a somewhat old medium such as radio I seek to find an answer in a contemporary debate. In my graduation research and project I will research this work methodology even further. Connecting the way a secure network operates and the shortcomings of similar older technologies seems like a logical step for me.
There also seems to be an element of pattern recognition. The results that More of the same shows are about recognizing patterns within a music recommendation algorithm. By showing the database in a more complete way, you can see patterns or errors within the recommendation algorithm.
The schizophonic search was a work that was almost solely based on finding messages and patterns within the radio spectrum.
Although there was no decryption in the actual sense in both these works, I feel that pattern recognition and discovery of hidden messages and codes are a personal fascination within these previous works and my graduation research.

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Related works:

http://www.1010.co.uk/org/software.html#sec-1
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