

STARTS Residency Public Report

Residency name

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Abstract

Our project links the personal and the collective. It enquires on how the personal reads the collective and how it can invest public space. We want to use data through the network as an inclusive experience between citizens by sharing one of the most universal aspects of humans, sleep, alongside city data, to recreate our vision of digital city space.

We transmit sleep brainwaves by streaming it through networks. And in conjunction with noise and pollution city sensor data, we recreate in real-time videos taken by inhabitants and projected on public screens. Thus creating a sort of collective “mindnet” and an empowered participative sense of shared network and city spaces.

Smart Aarhus City Lab have provided their WAN networks, public data collection, public screens, and PR means. We brought the concept, our multimedia programming expertise, a different approach to data and our knowledge of setting up and producing complex art works.

We have learned about networks and citizen participation in digitalized smart citizens. Our partners have learned how to mobilize citizens, the possibility of using data artistically, and to work with live video.

We are the first to transmit sleep brainwaves from people’s homes to distant locations using the internet. This could be useful for hospitals. We also had physically handicapped people try the installation and it was the first time that they see manifest the power of their brains in a complex process of creation.

We would like to develop further the artwork to include a neural network programming, work with sleep labs, as well as to try the project in three different countries simultaneously.

Index Terms

Citizen participation, network- IoT (Internet of Things), open-data, sleep brainwaves, video.

I. INTRODUCTION

When we think about life, most of the time, we think about our awake life, somehow we forget about our asleep life.

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The brain is very creative when we sleep; we see colors, but we are in the dark, we hear sounds but we are in the silence. The brain is even more creative than when we are awake. But the sleeper is isolated from the outside world. The sleeper is alone, he doesn't communicate with the others, and the others don't communicate with him/her. « Sleep in the City », tries to brake this isolation. First of all by making connections between sleepers, and making them produce something together, and secondly by sharing it with people who are awake. So we hope that awake people will see the videos as a kind of sharing with the sleepers. To do this sharing as widely as possible, we have decided not to film the city ourselves, because we thought it important to have a self portrait of the city, made by awake inhabitants who film their city, and asleep inhabitants who participate at night to this self portrait. We received more than 300 video clips, and we have decided to make seven different videos, one for each night of the performance week. There are differences between the first videos we received which were not very personal (the streets, the buildings, the forest and the sea), and the later videos which were more personal (people filmed themselves, or their friends, theirs family). Also, some of the important events that happened in the city in the last weeks were included: the vote, the demonstration for the climate, and the gay pride, among others. So it is a sort of a self portrait of Aarhus city. Walid Breidi chose Aarhus in our proposal, because of the smart city spirit and the collaboration of the citizens. The philosophy of Walid Breidi's work with interaction and digital data, and the philosophy of what Virgile Novarina tries to do with sleep and awakeness, fit very well with the philosophy of the Smart city Lab.

The challenge of doing the project addressed several areas, scientific, technological, graphic and participative.

The scientific challenge was to create opportunities to talk about sleep and brainwaves in different states of consciousness, by using the principle of interactivity and public participation we managed to get the people to participate in our sleep experience and to raise their interest on sleep and how the brain functions.

This participation took on another layer and that is citizens sharing their own personal data (their brainwaves measurements during sleep) in a public place taking the form of perpetually transformed videos. Another challenge was how to get the data (all data; brainwaves measurements and noise and pollution city data measurements) from people's homes and city data site through the Internet and to get it to control live-streamed video played in public places.



II. ARTWORK

The artwork invites citizens to reflect upon how we personally perceive collective urban spaces, how we can invest these spaces, and the importance of sleep in urban life. It does this by connecting sleeper's brainwaves and city data through the network in a way that it creates « interactive » poetic videos projected in real time all around the city at night. These videos are first taken by the inhabitants of the city.

The goals of the residency was to be able to realize the project in its multi-faceted aspect. We were able to use the possibilities of Wide area Networks (Wans) to transmit data in real-time to live video streaming, we created a sort of IOT “mindnet” and were able to mobilize a large number of participants for this project. We had a lot of positive reactions from everyone we met, or spoke to about the project, and from the public who saw the performance-installation.



III. METHODOLOGY

There are different aspects involved in the realization of the artwork: a) the technical aspect involving sensing, long distance communication, treatment of data, and streaming of video, b) the communication aspect involving, ateliers (children's atelier at Dokk1, artist open atelier at Aros museum) public talks and presentations, getting volunteers, and general communication on social media, c) extension of the residency into an additional residency at the ARoS

museum of Denmark, and d) the performance aspect involving the search of seven different locations where the sleep artist slept during his seven performances, the logistics involved in distributing the headbands to sleep volunteers and then receiving them back the next day for the following performance.



IV. CO-CREATION PROCESS

Describe the functional aspects of the residency and the role of each partner, including resources, communication and production means.

The tech partner had a team of 4 people involved in the communication of the project and its technical realization. They worked with us on the communication strategy for having volunteers to participate in the creation of the artwork, in preparing the children's atelier and in public representations. The producer also provided the use of their public screens network, a virtual private network over mobile network so the headband can communicate with our software Max. This included 6 sim cards and a server. They setup on my computer a streaming system.

Thanks to the tech partner we were able to contact the ARoS museum and get an additional residency for one month at the museum in order to finish the realisation of the artwork.

The artist followed up and worked in collaboration with the tech partner on the communication strategy and on the organization of public presentation. They presented the producers with an artistic concept that adopts their need to communicate their service to the citizens of Aarhus, and they also presented a clear technical scheme of what they needed for the artwork. They developed the video reactivity, the programming and the sensing aspect of the project. They worked on editing the volunteers' videos and on developing the interactive graphic effects.

V. IMPACT

How the residency impacts both parties.

A. Research Impact

Aarhus City Lab is a technical creative organization and this experience allowed them to view and do things differently either in terms of reaching out to the public or in terms of working with live projects which have a different urgency and time management than an office project. This will give them new ideas on how to communicate their products to the citizens and how to work with live streaming.

B. Artistic Impact

The enthusiasm and degree of participation of the inhabitants of Aarhus was spectacular. It underlined our belief that art is social and that digital art can be close to the public and have an inclusive effect.



VI. ART-SCIENCE INTER-RELATIONSHIPS

We have used scientific knowledge of sleep, brainwaves and data as the basis of our artwork. It is the first time that sleepers are "monitored" in their natural sleeping environment. We think that this can provide an opening idea for sleep laboratories to try and observe their patients in more natural environments than the impersonal cold laboratories.

Also sensing brainwave of physically handicapped people during our presentations showed how important it was for them to see directly how aesthetically creative their minds can be. It was the first time they had made such an experience.



VII. FUTURE DIRECTION AND ACTIONS

We have been contacted researchers who showed interest in our artwork. We would like to follow up on these contacts.

We would like to develop further the artwork to include a neural network programming in Max for the speed of the video player and to be able to select the sequence and its length in a sort of a Markov chain equation that will give it more of a dream feel to it. We would also like to work with sleep labs, as well as to try the project in three different countries simultaneously.

VIII. CONCLUSION

A. Concluding Remarks

It was a very enriching and uplifting experience for the artists and the reactions of those who have seen or participated in it was one of amazement. Our tech partners have experienced another way of using their technology and of reaching out to citizens.

