
SENTIŌ: Reconnect with Yourself to Better Connect with Others

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ABSTRACT

Occidental societies are becoming increasingly demanding. Citizens often feel overwhelmed and feel the need to rest, which they do so by isolating themselves from others.

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CHI'19 Extended Abstracts, May 4–9, 2019, Glasgow, Scotland UK

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ACM ISBN 978-1-4503-5971-9/19/05.

<https://doi.org/10.1145/3290607.3309689>

Individuals who use this time alone to reflect on their situation find that this reflection helps create deeper connections with others afterwards. With this in mind, we developed Sentiō, a solution that aims to encourage people to take time for themselves in hopes that it will lead them to be more open-minded when interacting with others. The solution helps people focus on bodily sensations and generates a comfortable and effortless time for introspection. Sentiō uses the subconscious benefits of perceiving one's heartbeat to foster personal reflection.

KEYWORDS

Québec City; Introspection; Social isolation; Heartbeat; Bodily sensation; User-Centered Design; Home; Design Methods; Ethnography;

1. SOCIOPOLITICAL CONTEXT

Like many occidental cities, Québec City, located in Canada, is grappling with a growing problem: the productivity dogma. Some political movements denounce the increasing pressure of performance and productivity affecting Quebecers [3]. Studies highlight the symptoms of this pressure: the sale of antidepressants is constantly growing and the psychological distress among students is high [6]. Working hours have stretched over the past few years, leaving less time for personal occupations [9]. As a result, many Quebecers feel frequently overwhelmed by this demanding lifestyle. Therefore, individuals tend to avoid social interactions because they feel the need to unwind from their daily life overload. Fatigue and intense emotions often trigger the need for social isolation. However, people are ashamed of explicitly manifesting the need to spend time alone, fearing that it will hurt their loved ones. On the other hand, when their need for a break is not fulfilled, individuals behave in a manner that contradicts what they seek in relationships. They are more prone to becoming distant, impolite, close-minded or engaging in superficial interactions.

Our ethnographic research helped us uncover that this need of taking a break is part of the daily life of most people. Some individuals engage in spiritual activities like meditation or even silent retreats, and they state that it helps them to reflect on their current situation and set their priorities [10]. They are able to acknowledge what is really important for them. As a result, they are more open and able to share with others. This observation led us to believe that the need to spend time alone is related to a need to go back to basics. However, people are often unaware of this need to unwind. When they are aware, they may not know how to find the appropriate resources to make this experience positive, and thus improve their condition.

Sentiō

Sentiō - is the Latin term expressing the act of perceiving, feeling, and experiencing. It can also refer to the act of realizing, seeing and becoming aware. This name felt appropriate for our project which aims to foster connection with oneself, and ultimately with others, through bodily sensation. [7]



Figure 1: The left column represents the causes of the need for social isolation. The right column indicates the common locations and activities associated with avoiding these interactions.

2. SENTIŌ

Our solution, Sentiō, aims to encourage introspection and moments of personal reflection which will subsequently help to foster genuine connections with others. It comprises two devices: a blanket and a bracelet that replicate its owner's heartbeat as pulses felt on the body. Perceiving our own heartbeat promotes a deeper connection with our emotions [4]. Heartbeats can also synchronize between people; the bracelet will communicate this phenomenon as well.

3. DESIGN PROJECT ORIENTATION

The project aims to reconnect people with themselves which will, in turn, help them to create and maintain more authentic relationships. Many introspection methods already exist, but most of these involve moving to another location or require a strong and clearly stated need to take a break. We saw an opportunity to create an experience that would be easily integrated in one's everyday life and that could trigger self-reflection even for people who are not completely aware of or comfortable with their need for introspection.

Objectives:

- Remind people that they are allowed to take a break
- Encourage introspection and offer guidance during one's alone time
- Provide an accessible, easy and effortless way of fostering personal reflection

4. USER-CENTERED DESIGN PROCESS

To uncover our design opportunity and develop the solution, we used diverse ethnographic methods as well as a literature search. We started by gathering general information about the subject and progressively refined our methods to find more specific information.

4.1 General Data Collection Methods

We produced an online survey and received 176 answers. We found that most people feel the need to isolate themselves regularly when they feel overwhelmed, tired or emotionally drained. This first data collection also allowed us to identify specific places where the need for isolation was manifested throughout participants' everyday life. Considering this information, we decided to collect information about this experience in those specific places. To do so, we used the Graffiti wall method [8] that consists of displaying a sheet of paper in a strategic location and inviting people to comment on it. The sheets of paper were placed in restrooms, since previous data from the survey revealed that many people use bathroom breaks to unwind. A set of sheets invited people to describe why they felt the need to avoid social interactions. Other papers asked why and how they connect with others. We obtained over a hundred comments that helped us understand that people desire authentic relationships and that feeling overwhelmed prevents them from engaging in meaningful social interactions.

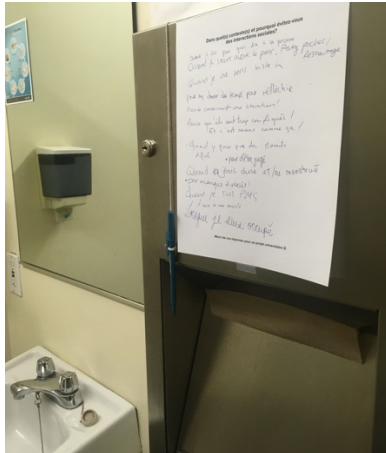


Figure 2: Graffiti wall method - More than 10 paper sheets were displayed in the restrooms of our university.



Figure 3 : Wizard of Oz method
Participants were paired and equipped with fake heart rate detectors. They were told that the devices were linked to a lamp that would light up if their heartbeats matched. In reality, the lamp was activated by a switch controlled by a member of our team.

4.2 Specific Data Collection Methods

We also conducted 5 interviews with people from different backgrounds to further investigate this need for isolation. The idea of needing time to relax, to slow down the process of life emerged repeatedly. With this in mind, we applied the method *Try it yourself* [8] and visited a meditation center to experience meditation. We also conducted a group interview at a spirituality center with individuals who take part in silent retreats. The analysis of the information gathered allowed us to comprehend that being at peace with ourselves can be beneficial to social interactions.

4.2 Validation Methods

The elements revealed through our different methods were augmented with literature searches. This approach allowed us to support our data and to launch the product design on a solid foundation. Later during the process, we asked for the participant's feedback through an experiment that helped us validate different aspects of the concept.

5. ENVISIONED SOLUTION

To translate the data into a meaningful solution, we used an approach explained in the text *Poetic Observation* by Jane Fulton Suri. We let ourselves be influenced by ideas that seemed to have no connection to our project [5]. Quickly the heart came to mind as the embodiment of what is essential to life. After some research, we uncovered that this intuition would be more than a poetic metaphor. Research suggests that perceiving our own heartbeat induces a deeper connection with our feelings [11]. It also interferes with our perception of visual stimuli as we are less aware of our surroundings when we are conscious of our heartbeat. Furthermore, a growing practice aims to make people aware of their bodily sensations because they are a major factor in experiencing emotions. It could foster personal development [1]. Heartbeats can also synchronize between individuals who are closely related. The mere presence of the other is enough to trigger heartbeat synchronization. Researchers believe it is related to empathy and that synchronization could be an unconscious social facilitator aiming to make people more socially sensitive [4].

Sentiō makes the heartbeat perceivable by reproducing its rhythm as a tactile sensation. At home, with the use of a comfortable pulsing blanket, individuals will learn to take a moment for themselves. The blanket helps to focus on bodily sensation which provides an accessible way to connect with oneself; thus, people will progressively learn to listen to themselves. Outside the house, the experience will be replicated through a bracelet that acts as a reminder of the need to return to basics. Individuals can activate pulses when needed and will also be subtly notified when heartbeat synchrony occurs with other people. Sentiō is not about the objects themselves but rather the experience lived through the devices. We chose to create no-interface devices to ensure that the focus is on the experience, not the products. We want the experience to transcend the material [7].

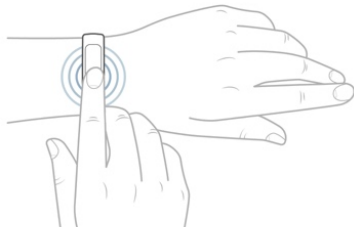


Figure 4 : A light pressure on the Sentiō bracelet, activates pulses synched with the wearer's heartbeat.

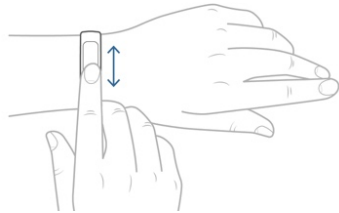


Figure 5: To activate and adjust the intensity of the pulses in the blanket users need to glide their fingers vertically on the surface of the bracelet.

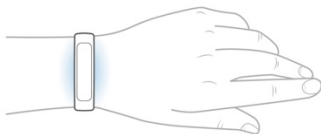


Figure 6: When heartbeat synchrony occurs between two people wearing a Sentiō bracelet, a slight white light highlights the connection.

5.1 Sentiō Blanket – Learning the experience

The blanket is equipped with pulse simulators synchronized with the user's heartbeat, which are transmitted by the bracelet via Bluetooth. As a result, individuals can wrap themselves in the blanket and feel the pulses of their heart. Based on the hypothesis proposed by researchers, it would favor a deeper connection with emotions while also diminishing the impact of external visual stimuli [11]. Through the validation process, we confirmed that using a blanket is already part of the routine of many Quebecers and Sentiō could easily be integrated in their daily lives. The blanket acts as a tool that encourages users not only to take time for themselves but also to realize that it can be beneficial for them. Thereby, the Sentiō blanket creates a comfortable environment that favors introspection in an effortless and pleasant gesture that invites individuals to concentrate on their bodily sensations. To provide an optimal experience, the pulses of the blanket can be controlled by the Sentiō bracelet. By simple gliding gestures users can activate the pulses of the blanket and adjust their intensity.

5.2 Sentiō bracelet – The reminder

The Sentiō bracelet can be worn anywhere at any time. It is equipped with an optical pulse sensor to detect the heart rate. If users feel the need to take a break outside of their home, they can activate light pulses synchronized with their own heartbeat by a simple touch. Thus, the experience learned at home can be transposed everywhere when needed. The bracelet also indicates when synchronicity occurs between people. In these moments, subtle lights on the sides of the bracelet illuminate to highlight the special bond shared between the individuals. Naturally, this functionality is available only if the other person also wears a Sentiō bracelet and agrees to be connected with others.

5.3 User Test - Wizard of Oz

We tested the acceptability of our solution with 9 participants to see if users would appreciate being aware of their heartbeat synchronization. We used the Wizard of Oz technique which consists of testing the validity of a concept through a prototype that is not really functional. Participants believe their actions affect the outcome, but the product is controlled by a member of the test team [8]. Following this technique, we simulated heartbeat synchronization between two people with the aid of fake pulse sensors and a lamp. Reactions to their matching heartbeats were positive and lead us to believe that people would appreciate being aware of this phenomenon. Some said that it creates a feeling of proximity with the other person. Participants were also asked to take part in the design by stating their preferences between different device options which helped us enhance our solution and improve the user experience.

6. APPLICATIONS OF HEARTBEAT TECHNOLOGY

During our research, we discovered that some pre-existing devices are already used to simulate a heartbeat. However, they are used to induce a feeling of proximity with a loved one or to create a relaxing experience. These solutions reproduce the heartbeat of another person or impose a mechanical rhythm to help people simmer down. Sentiō, on the other hand, aims to inform users of what is truly happening within their body and allows them to acknowledge and not suppress feelings.



Figure 7: Representation of the Sentiō bracelet.



Figure 8: Representation of the Sentiō blanket.

The existence of these products proves that all the technology needed to create our solution already exists.

7. CONCLUSION

By allowing people to take a moment of self-reflection, Sentiō helps individuals to be more open to others and eases the development of more authentic social interactions. The solution uses bodily sensations to favor an effortless and pleasant introspection. The experience can be transposed anywhere with little effort and acts as a reminder of the right to unwind.

Although we briefly tested the acceptability of the solution, there are still evaluations to be done to see the long-term impact of the solution. The devices are tools for personal reflection, but users could potentially develop more methods they find appropriate for themselves. Introspection exercises could be elaborated to be used alongside the devices for individuals willing to dive deeper into self-reflection.

ACKNOWLEDGEMENTS

We would like to thank all the participants for their input in the project and for offering us a moment of their precious time. We also thank all the people who helped us enhance the project through their comments and suggestions. We wish to thank our teacher, Jacynthe Roberge, for guiding us through this whole process. We also wish to thank Jean-Michel Blais and CFCF (Micheal Silver) for allowing us to use their song, Spirit, for the soundtrack of the video.

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