

“AS IF” You Are Suffering in Silence

An Interactive Installation as Empathy Tool for Chronic Pain

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Abstract

The unseen and incommunicable nature of Chronic Pain makes it difficult for the general public to believe, understand or empathize with patients. “*AS IF*” is an interactive art installation that aims at eliciting public’s empathy with Chronic Pain sufferers. By enabling able-bodied people to “map into” a virtual body that has limitations, participants may gain an “as if” sense that they are suffering from Chronic Pain.

The Interactive Empathetic System

The Problem of the Suffering in Silence

Living with Chronic Pain is a reality for 1 out of 5 people in industrialized countries [1]. The individual suffering is invisible and incommunicable. Therefore, it can be difficult for the healthcare professionals, family, friends and others to believe and understand the sufferings of Chronic Pain patients, let alone to empathize with or support them. This in turn leads patients to confusion, frustration, anger, as well as vulnerability to stigma, shame and social isolation [2].

Mirror and the Impaired Body

During the interaction, the participant is faced with his/her own whole body silhouette that is situated in a 3D virtual environment. The “*AS IF*” system uses a Microsoft Kinect Sensor to track the participant’s whole body movements: thus, the body image in the mirror updates with the user’s actual body gestures accordingly. In the virtual mirror, the virtual body switches seamlessly between two modes: in the “normal body mode”, the virtual body acts exactly like a mirror: the participant can see his/her arm rising or leg kicking in the mirror; in the “chronic pain body mode”, the range of motion of the joints of the virtual body is limited. This joint movement limitation function attacks random body joints within an arbitrary time interval, mimicking the unexpected nature of certain chronic pain attacks (Fig 1). While the visual presentation of joint limitation in the virtual body mimics the actual situation of Chronic Pain, it also creates a visual-motor incongruence for the participants, which intensifies their sensory disturbance, such as sense of alienation of his/her own body, loss of control of the body, weight change on the impaired limb, or even feeling of numbness and pain. This feeling of isolated alienation is also known to be expressed by Chronic Pain patients [2]. Thus, through the design of

the altered body schema, the transformative experience may be evoked or generated.



Fig 1. Participant interacts with *AS IF*. © SFU SIAT Pain Studies Lab 2016

Body-Environment Interaction

In the virtual mirror, the user will find him/herself standing under the starry sky, with several prominent stars shining brightly. The interactive environment consists of a game: Connecting Stars. The user’s task is to connect the prominent stars with lines to reveal a meaningful shape.

Conclusion

In this paper, we present an interactive art installation “*AS IF*” to simulate the daily sufferings of living with Chronic Pain, for the aim of letting their voice out when they usually suffering in silence. Combining the state-of-art technology, psychological theory, medical and neuroscience knowledge in the design approach, “*AS IF*” explores the expression of pain in the form of interactive art. Here, interactive art and medicine merge to facilitate the vast majority to understand and empathize the silent suffering of Chronic Pain patients.

References

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