Designing Creative Technologies
Assignment2
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I took an informal interview with Anshul Pendse who is a Ph.D. student in Media Arts and Technology at UCSB. I chose him as an interviewer because he is using Haptic technology in his work and I wanted to know how he is using the haptic devices, what the haptic technology is for, how he evaluates his work with haptic technology, and what the challenge of the using haptic technology is.

His Profession and Background

His profession is an immersive experience designer. He works with different immersive technologies that use virtual reality and multi-projection describing virtual environments on using this entertainment immersive entertainment technology which has wellness and well-being too.

His background is in animation and in-game design. He is trying to take the best parts of those of design methodologies that entrance users to put a more positive mental state. Simulating and introducing states like all and wonder transformative experience as he can transform your physiology of psychology in your perception. It provides sensory experiences that we never experienced before. That's his way of creating entertainment that is less about distraction and more about actually is experiencing. It helps with neuroplasticity and feelings of gratitude and just going to have these short bursts of all in wonder these short bursts of feeling, which reach to social behavior.

His Work - Inner Activity

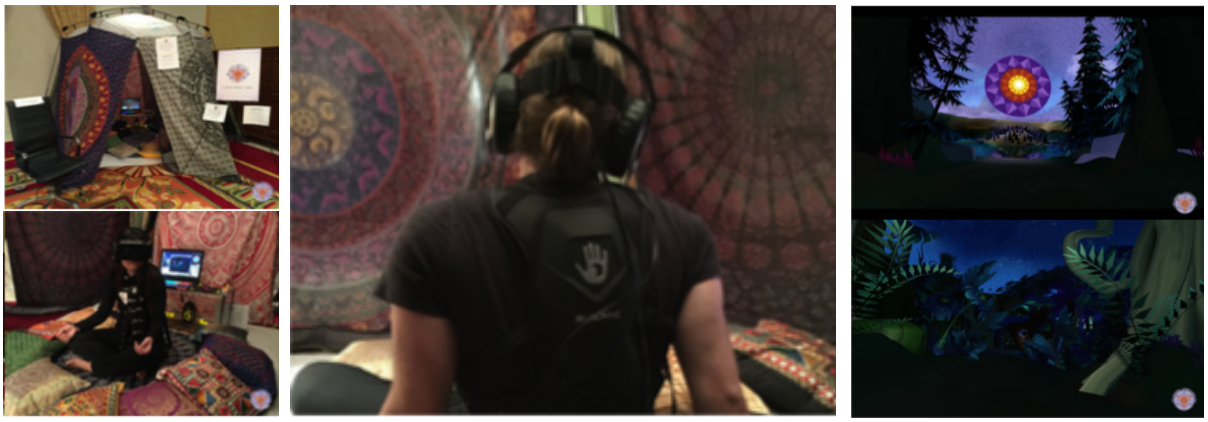

Figure 1: *A) Overview of the Inner Activity installation from the outside(top) and from the inside(bottom). B) The User is wearing SubPac which is snapback type of the vibrotactile device and HMD. C) Inner Activity virtual environment meditation mandala (top) and virtual forest close-up (bottom).*

His focus is VR which has multi-sensory experiences. He works with a team that sensory synchronization leads to multi-sensory integration. He uses the device called a

SubPac[1] which is snap back to provide a tactile sensation to your back. Integrating HMD with VR and audio, they can put your body in sensory immersive. Moving around VR and locomotion and when you are moving the sense of movement you get reinforced by vibration. As you move fast, the vibration gives a second sense.

In 2015, the movements of motion in VR was causing motion sickness. He used snapback to just vibrate according to the movement that he was feeling movement. The vibration synchronizes with the movement and there's also I use a fan so there's a fan blowing wind on you. As when you move forward, you feel the move. He wants to use vibration site sight sound, smell, the vibration of touch that is the modality of synchronized when you go to a different environment. He was inspired by the Synesthesia Suit[2] which is the suit type of haptic device. When he tried it, he wanted to improve the performance in the VR environment.

Strategy and Evaluation

When he starts the project, he always makes sure the goal of the project. He said that if we estimate better, we can get better results. To estimate the better future, he uses the milestone that he has to achieve. He decides 5 things at the beginning of the project. These 5 things are essential to follow as the strategy of the project. The first thing is making articulate the goal which is what we are going to do and what I am going to make. The second thing is what methodology that I am going to use. The third thing is how long does it going to take based on the skill level. The fourth thing is how much time do I have. The fifth thing is how much money do I have.

When he clarifies five things, he starts making a prototype. When he finished 10% of making the prototype, he always conducts playtest for target audiences, collogues, and co-fellow designer. This is important to check if the concept that they talk with is correct and direction is correct in the 10% stage. He repeats discussion and making a prototype. Through the process, he also makes sure that what user is doing in the application and how does he need to change the configuration to let them do in the application. When he finishes 80% or 90% of the prototype, they improve just small error.

In the evaluation process, he conducts playtest and asks questions. In the evaluation process, he always makes sure the 3 questions which are what kind of thing we are making, what kind of thing we are testing, and what kind of thing we are testing for. In the playtest, they ask users to do a particular orientation. He checks if they understand particular things that happened. He confirms what users understand and what it is related. Then he grades about it from a particular orientation. When he asks questions, first, he asks descriptors and adjectives that would be attached to these particular interaction or experiences. He avoids using descriptors that are cool - bad, playful - not playful, immersive - not immersive because, from the descriptors, he is not able to confirm what is really happened in the application.

End of the Project and Rewarding

How he decides when a piece of his work is finished is based on the deadline. However, if it is openwork, there some milestones for finishing different states. When he starts the project, the first milestone that I want to reach is just proof concept of a prototype. When he thinks his work should be more polished, he exhibits his work to the public. It is hard to tell it is finished but when he thinks it is ready to exhibit. When we finish the prototyping, there is affordance to improve the sound, visual art rendering, etc.

Rewarding from his work is making what he wants. To give an example, when the VR headset coming out, he is not interested in shooting game but he is so interested in the immersive experiences in VR. He is very pleasant to share the VR experiences and design insulation itself.

Challenges

In the tool aspect, when he uses SubPac which is a haptic device, there is a hardware issue. SubPac is a snapback type haptic device but it does not allow to provide a sense of vibration to the whole body but just back. To provide desired vibrotactile feedback like giving immersive experiences in VR, he needs haptic devices that allow giving haptic feedback a wider range of the body part. In the skill aspect, he had challenges creating interactive sound through VR experiences because he had no experience of sound engineering. Haptic devices are worked based on the sound signal. Then, he collaborated collogues and professionals that are expert of the sound creating.

How He Relies on Tools to Explore and Refine Ideas

When he making prototypes, he is doing exploratory because it is the repetition of making prototype based on the discussion and thought, and checking concepts and works. The making process is manual. When he started with the project, it is deliberate because he starts with deliberate thinking through intuition. This creating process of using a tool (haptic device) is physical and mental because his work is about an inner activity which is an immersive activity with vibrotactile feedback.

In the artifacts, when he starts making a prototype, the tool is representational. At the endpoint, it would be abstract because based on the prototype the evaluation way will be more concrete. It is digital but physical because we use technology and it relates to the human’s body. The work is about meditation and then it is ephemeral. The work is definitely dynamic. When he thinks about his work with haptic devices, he can think his work as systematic. It is the system that has created the scenario and users are auto players.

References

[1] SUBPAC - The New Way to Experience Sound: Feel it.™, https://subpac.com/

[2] Yukari Konishi, Nobuhisa Hanamitsu, Benjamin Outram, Kouta Minamizawa, Ayahiko Sato, and Tetsuya Mizuguchi. 2016. Synesthesia Suit. In Proceedings of the 29th Annual Symposium on User Interface Software and Technology (UIST '16 Adjunct). Association for Computing Machinery, New York, NY, USA, 149.