

Virtual reality sex-work: phantom touch and “tricks.”

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Abstract

This poster explores a Japanese virtual reality (VR) sex-work service — X-Oasis — user experience (UX) design for avatar-mediated sexual encounters. Quantitative data was collected, participant observation and interviews were conducted. The results reveal that the UX allows sex workers to perform their activities in VR. Moreover, it relies on sex workers’ capacity to experience phantom touch and “tricks” to awaken guests’ body parts as the latter cannot move their bodies in the X-Oasis virtual environments. By engaging directly with the engineers and co-founder of X-Oasis, this poster paper could spark discussions among industry professionals and enhance our comprehension of VR intimacy.

1. Introduction

Avatar-mediated sexual interactions in virtual environments (Wardle, 2018) have been researched in the context of Second Life (Koski, 2010). “Good” virtual coitus occurs when role play compensates for the lack of physical touch and individuals interact using their voice (Lynch, 2010). Virtual intimacy can provide emotional fulfillment, support, and satisfy communication needs (Freeman et al., 2016). This poster presents X-Oasis, a Japanese virtual reality (VR) sex-work service launched in July 2020. The sexual interactions are mediated via anime-like-looking avatars. Guests (customers) can choose among twelve virtual environments and thirty-seven scenarios inspired by Japanese pornographic material. They can also select their gender and genitalia. The guests can access the service via desktop or using a smartphone and VR goggles. Unlike the guests, the casts (sex workers) can move their bodies in virtual environments using motion tracking. X-Oasis developed a unique user experience (UX) design system and “tricks” inducing touch-like sensations. By interviewing X-Oasis, we hope to provide inside knowledge on UX from industry professionals.

2. Methodology and data

We conducted participant observation during six 40 min sessions at X-Oasis using iPhone X and Hamsan VR goggles. The protocol was as following: our avatar body appeared in the virtual space, the cast greeted us, scenarios were played out (lasting 10-15min each), feelings were discussed. Furthermore, two quantitative surveys were conducted amongst five casts in the Summer of 2020 and March 2021. X-Oasis engineer and co-founder were interviewed to elicit methods for stimulating arousal.

The quantitative data is as follows: age distribution of X-Oasis workers is 23-26 years old (60%), 27-30 years old (20%), 31-34 years old (20%). The average number of customers per week is 10,3. The casts spend an average of 5,8h per week in X-Oasis. 60% of the cast change their gender identity based on the avatar, and 60% consistently identify differently from their physical gender identity.

3. Discussions

According to X-Oasis co-founder, “sitting and playing sex animations while chatting and watching avatars has a strong ‘acting’ feel to it” in Second Life. Their competitor Virtual Live Chat from DMM only provides chatting services with 2D anime characters moved using computer-programmed animations. Building upon this, X-Oasis founders wanted to create an environment where sex workers could have a virtual body and

experience intercourse by “sharing the same space.” They developed a unique UX that relies on the casts’ capacity to experience phantom touch. “The level of VR immersion of the cast equals the level of virtual immersion of the guest, so we develop mostly for casts to increase guests’ UX,” the engineer says. He enumerates the elements taken into consideration when designing the UX. 1) the cast can use their licensed avatar, 2) they are given liberty regarding fashion, 3) the guest is represented by an avatar, giving the sensation of talking “to someone who is there,” 4) penis and nipples can dynamically erect, 5) breasts can move when touched, 6) implementation of a customizable and sexually sensitive face dynamic system with custom tongue movements, 7) no risk of privacy violation. Regarding the latter, X-Oasis co-founder remarks that “the sense of safety covered and protected as a commercial service lets the casts immerse in front of guests.” The UX was built in Unity 2019.4. The service uses Unity SteamVR plugins to receive inputs from the cast’s VR equipment. The avatars were created in VRoid. The real-time movements are rendered using FinalIK. X-Oasis uses its own AWS broadcast server implemented with webRTC or a third-party webRTC server.

The guest cannot move, and their viewpoint is positioned in the avatar’s head. However, the cast can move the guest’s body, and a mirror can be placed in front of them. Due to the static nature of guests’ avatars, the cast has to master the phantom touch, transmitting the feeling of immersion. They are trained “tricks” to induce sensations of touch and awaken avatar-mediated arousal. The X-Oasis founders share with us three of them. First, the cast sucks their finger for a second, then slowly lets the guest conduct the same action by bringing the finger into their mouth — “a ritual that awakes guest’s tongue,” the engineer clarifies. Then, the cast proceeds to kiss, stimulating “feeling the tongue,” he adds. Second, casts explain that to mimic the sound of kissing, penetration, and licking, providing “realistic” real-time audio feedback, the cast “licks fingers and kisses between the thumb and index finger of their hand.” Third, during the sessions, it has been noticed that the cast comes remarkably close to the guest’s head. The engineer explains that provoking phantom touch is simpler with body parts closer to the head. He adds that the guest’s “eyes can focus on VR 3D, making their body feel that it is there in reality.”

As a final remark, the casts mention that, unlike in a game, there is a sense of “mental connection and spiritual openness” when they conduct their activities at X-Oasis. They further note that for “good” intercourse, “immersive experience” and “high-end VR equipment” are paramount. Adding trackers on hips and legs enables higher quality full-body tracking and leads to “better sex,” as they claim.

4. Conclusion

Akin to Second Life, X-Oasis allows its cast members and guests to experience different gender identities and various erotic encounters different from their daily lives (Lynch, 2010). This poster engaged with industry professionals to understand the thought process behind designing the UX and what “tricks” are deployed to awaking body parts in avatar-mediated sex work. The UX allows sex workers to conduct their activities from home in VR. The UX was built to stimulate the casts’ phantom touch, leading to immersive experiences for static guests. According to gathered testimonies, casts’ capacity to experience phantom touch and deploy “tricks” compensates for the absence of haptic feedback. This poster could spark discussions among industry professionals designing VR sex-work services, enhance our comprehension of VR intimacy using phantom touch, and provide an insight into the inner mechanisms of VR coitus.

5. References

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