

# ISEA *Constellations* WebXR Exhibition

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## Abstract

Conceived by Dr. Rewa Wright, *Constellations* is a juried and curated selection of 99 artists, mostly from screen arts, XR/VR/AR, live performance and installation. Within this framework, the WebXR exhibition develops a new curatorial methodology by combining two emerging platforms: WebXR on Styly and VRChat. The VRChat development team of Ben Coles, Nina Phung and Anan Putras has created an innovative method for joining VRChat and Styly, using spatial 3D, contributing a unique technical method for connecting WebXR on the Styly platform with a multi-user world in VRChat. Dr. Alison Bennett is an experienced WebXR practitioner who has created numerous worlds on Styly and other platforms such as Mozilla Hubs. Alison joins to co-curate the Styly exhibition, offering a scholarly perspective on the origins of WebXR. This collaboration involves a unique context, and points toward emerging potentials for multi-user collaboration in a hybrid virtual future,

## Keywords

VRChat, WebXR, Exhibition, Virtual World, Spatial aesthetics

## Introduction

WebXR (Web Extended Reality) represents a significant advancement in digital technology, facilitating the creation and deployment of virtual reality (VR) and augmented reality (AR) experiences directly within web browsers. This innovation democratizes access to immersive content, obviating the necessity for dedicated applications and thereby enhancing the accessibility and ubiquity of VR and AR.

The Styly Platform, an avant-garde creation by Psychic VR Lab, epitomizes a comprehensive, cloud-based solution for the development, dissemination, and engagement with XR content. Tailored to meet the needs of artists, designers, and developers, Styly offers an array of tools that empower the construction of interactive and immersive 3D environments. These environments are accessible across a spectrum of devices, encompassing VR headsets, AR glasses,

and web browsers. The platform supports diverse creative processes, from 3D modeling and animation to sound design and interactive scripting.

For an abstract animator and media artist, the synergy of WebXR and the Styly Platform offers a potent combination, enabling the creation of sophisticated, interactive experiences that are both accessible and engaging. The integration of these technologies into your practice could profoundly expand the boundaries of your artistic expression, allowing for the exploration of new dimensions in digital art and immersive storytelling.

## Future aesthetics and virtual world generation

VRChat, a preeminent social virtual reality platform, is renowned for its extensive array of innovative features that collectively create a dynamic and engaging user experience. These innovations span various technological, social, and creative dimensions, establishing VRChat as a versatile and influential environment in the virtual realm.

A cornerstone of VRChat's innovation lies in its emphasis on user-generated content. By providing robust tools for creating and sharing virtual worlds and avatars, VRChat democratizes content creation. This empowers a diverse user base to contribute uniquely to the ecosystem, resulting in a vast and continuously evolving array of environments and characters. Utilizing Unity and VRChat's SDK, users can craft intricate and highly interactive virtual spaces, fostering a vibrant, community-driven approach to creation.

The platform's support for custom avatars and full-body tracking marks another significant innovation. Users can express themselves in virtually unlimited ways, with

avatars tailored to individual preferences. Full-body tracking enhances the realism of interactions by accurately capturing users' movements. This feature is particularly crucial in virtual reality, where body language significantly enriches communication. By employing various VR hardware setups, including sensors and trackers, VRChat translates physical movements into the virtual domain, creating a more immersive experience.

At its core, VRChat is designed as a social platform, offering a myriad of features that enrich social interaction. Voice and text chat, gestures, and emotes facilitate nuanced and expressive communication. The platform encourages spontaneous and organic social encounters, mirroring real-world social dynamics. Moreover, VRChat's capacity to host large numbers of users in shared spaces underscores its role as a virtual meeting place, ideal for events such as meetups, parties, and even conferences.

Cross-platform accessibility further enhances VRChat's appeal. The platform supports a variety of VR headsets, including Oculus Rift, HTC Vive, Valve Index, and Windows Mixed Reality. Additionally, it is accessible in desktop mode, enabling users without VR hardware to participate in the virtual world. This inclusivity broadens the user base, making VRChat accessible to a wider audience.

Interactive environments and mini-games, often created by the community, add another layer of engagement to VRChat. These range from simple social lounges to complex game worlds with unique mechanics and objectives. This variety not only provides entertainment but also demonstrates the platform's potential for diverse applications, including education, training, and simulation.

The persistence and evolving nature of VRChat worlds allow users to leave a lasting impact on the virtual

environment. Regular updates and community contributions ensure that the content remains fresh and engaging, inviting users to revisit worlds and participate in ongoing projects. This dynamic aspect of VRChat fosters a living, breathing virtual universe that evolves over time.

Advanced customization and scripting options further enhance the platform's capabilities. Through Udon, VRChat's scripting language, users can create complex and interactive experiences, incorporating sophisticated world mechanics such as puzzles, quests, and interactive storytelling. These features elevate the depth and interactivity of virtual environments, offering users an unparalleled creative canvas. Central to VRChat's success is its robust and supportive community. The platform facilitates connections through various forums, social media channels, and in-world support, fostering a sense of belonging and collaboration. This community-centric approach encourages users to share their creations and experiences, enhancing the overall vibrancy of the platform.

, which can range from constructive environmental activism to debilitating psychological overwhelm. Additionally, the emergence of technologies like generative AI further complicates this scenario, posing significant challenges to global economic and societal stability.

In this context, Speculative Futures asks a profound question: what future will humanity inherit? The exhibition not only seeks to envision potential outcomes but also to inspire a reflective dialogue on our collective trajectory in an ever-evolving world. We hope to continue this important partnership in the future with other ISEA host cities and DAC ACM SIGGRAPH.

## **Acknowledgements**

The curators and organizers of the ISEA Constellations WebXR Exhibition thank their host organizations, ISEA, RMIT and QUT, for the kind support.