Making a Virtual Playground: Values-Based Game Design in Meeting Platforms

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INTRODUCTION

Even as they become ubiquitous in everyday life, virtual meeting (VM) platforms (e.g., Zoom, Microsoft Teams) are fraught with user complaints ranging from technical issues like lagging video to "Zoom Fatigue" from long periods on camera (Bailenson 2021). By rushing to scale software distribution after COVID-19 lockdowns, providers fixated on design norms favoring efficiency and formality, even though online encounters may require casual or playful design strategies. Therefore, this work-in-progress focuses on developing a VM social meeting platform built upon values-based game design principles to create a more equitable online "playground" that represents a wider variety of user needs.

LITERATURE REVIEW

A growing body of work highlights how contemporary videoconferencing software takes a mental and social toll on users. While these platforms provide flexibility and efficiency (Lindeblad et al. 2016), users experience exhaustion, reduced collective intelligence (Tomprou et al. 2021), diminished productivity (Okabe-Miyamoto et al. 2021), and gender inequity (George et al. 2022). Many reactions stem from specific features—i.e., maneuvering cameras, incorporating a "self-view" into interfaces, and backchanneling in chats (Wiederhold 2020)—that induce Zoom fatigue and are exacerbated by designers disregarding gender or racial bias concerns (Ma et al. 2022). Although only one of many factors (e.g., Lee et al. 2022), design choices result in the least powerful enduring increased stress and loneliness (Shockley et al. 2021).

Such problems relate to software expectations; Bergmann et al. (2023) suggest that videoconferencing fatigue stems from designers' assumptions about how users balance work tasks and socializing. However, contemporary use has led to demands for "worker-centered" platforms recognizing imbalances in design (Zhang et al. 2022) and integration of playful features (like user-created reaction icons) to promote equitable communication (Cho et al. 2021). Collectively, research calls for the reassessment of VM applications to facilitate a wider variety of synchronous meeting activities and stakeholders.

Games as Virtual Meetings

Games and virtual worlds satisfy the need for more holistic modes of VM designs. Massive Multiplayer Online Games like *World of Warcraft* and environments like *Second Life* have long been used for various meetings—with scholarship noting the casual, social, and other ways by which players build affinity through distinct features such as avatars, common activities (e.g., Davis and Boellstorff 2016), and the exchange

of goods. They also became sites for more workplace interaction during pandemic quarantines, as covered in the popular press (Foxman 2022) and advocated for by academics (Kleiman et al. 2020). Furthermore, social gaming components like avatars and virtual objects engender higher levels of reciprocity and trust (Torro and Pirkkalainen 2023). Games and principles associated with them may provide vital lessons to reconfigure the features related to VM dissatisfaction, leading to the following questions:

RQ_1: How can play/game features be effectively integrated into virtual meetings?

RQ_2: How can play/game features address underrepresented values in virtual meetings?

METHODS AND FUTURE WORK

To answer these questions, we are developing a working VM prototype that incorporates explicitly playful features into its design and seeks to remedy gaps in equity and accessibility. The platform is currently constructed using the Unity game engine and built into the social VR/gaming platform VRChat, which offers a useful ecosystem for playful interaction (Torro and Pirkkalainen 2023). It also allows for a multimodal experience, enabling users to interact via computer and HMDs alike.

To do this, we take a values-based design approach (e.g., Flanagan and Nissenbaum 2014), which allows for technological design that functionally resonates with user values (Friedman et al. 2013) and is explicitly deployed to make more equitable (Dillahunt et al. 2017) and inclusive (Walsh et al. 2013) products. To produce the platform, we incorporate key tenets of values-based design strategies involving discovery, translation, and verification (Flanagan et al. 2008). For our discovery phase, we set out to identify how values we brought to the design process regarding equity and inclusion, as well as the usefulness of play as an intervention in virtual workspaces, might be integrated with regular VM users and developers, including virtual worlds and games. Therefore, before design began, we conducted interviews with developers (N = 40) and more general surveys of VM users (N = 2448). Building on insights from these studies, we have started moving to the translation phase, which we are operationalizing and implementing through an iterative process where researchers and a development team consistently build and test VM features in response to identified values found during discovery. We formally use documentation from the development team and notes from weekly meetings with researchers to audit the process and deepen our understanding of the dynamics of integrating play into the platform. Finally, to verify our findings, we will meet with design partners, development teams, general users, and educators via focus groups to playtest the prototype and ascertain whether the discovered values are well represented within the software.

Development is ongoing; interviews and surveys have identified that play is particularly useful for creating a casual and comfortable meeting environment. Additionally, specific play features alleviate communication and representation concerns. For instance, the use of avatars can provide a means of obviating Zoom fatigue, and the addition of gestures within VM spaces can offer alternate ways of engaging with coworkers without verbal interruptions. Our work is currently in the implementation stage, where we lean heavily into fostering playful elements to

further allow for creativity and entertainment compared to traditional meeting spaces; this includes making a more fanciful virtual world with video game-inspired regions to make meetings more interesting and a suite of objects including dice, fidget spinners, and 3D artist tools to permit varied forms of personal expression. Much of this process involves counterbalancing technical requirements and limiting more grandiose ideas because of issues surrounding expediency and intellectual property. By the time of the conference, we will have tested the effectiveness of these interventions via focus groups and ultimately begin to see how the values we bring to software development are utilized in this virtual playground.

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