

Virtual Reality Live Theatre on No Budget

A Model for Independent Theatrical Productions using Open-Source Social VR

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ABSTRACT

Jettison, along with the entire OnBoardXR festival, is produced and performed live entirely in virtual reality using the open-source Mozilla Hubs platform. These shows took place in a virtual representation of a theater, leveraging the shared conventions of live theatrical performance to simplify the challenge of onboarding the audience: knowing how to behave in a real world theater translates intuitively to behavior in a virtual theater. At the same time, our production process mimicked that of real world theater, with very close parallels in the application of traditional theatrical skills and practices – with the main difference being that our cast and crew were all fully remote. Finally, the Hubs platform allows audiences to view the show on a range of hardware from VR HMDs to tablets and phones. Put together, our process represents a model by which independent theater companies can create productions using familiar techniques and skills, and present it for distributed audiences who don't have dedicated hardware. Ours was an approach of utilizing the latest virtualization technology to allow access to the widest range of audience possible, all from a bare-bones production budget. Unlike other approaches to virtual or online theater, the work of Jettison and its OnBoardXR is an attempt to, as closely as possible, replicate the experience of attending a show in a real world theater – an experience unavailable over the past year. In this talk we will describe our process and learnings.

KEYWORDS

Virtual Reality, Virtual Production, Realtime Virtual Performance, Social Virtual Reality

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1 INTRODUCTION

Many independent theater productions in the US operate on budgets of \$10,000 or less [Todoroff, 2021]. To be able to create virtual shows, they need a low-cost toolset that does not require a large team or advanced technical skills to use. They also need to be able to reach a broad, non-technical audience. There are a number of existing platforms that enable multi-user social events in virtual reality, reducing the development costs for event producers. Few of them, however, also support visitors without VR HMDs.

Mozilla Hubs is a social VR platform built with Web XR. A user can enter a Hubs room using almost all current VR HMDs as well as on nearly any computer or mobile device with a modern web browser. Our production of "Jettison" was rehearsed and performed entirely in Hubs, and demonstrates a low-cost and easy-to-adopt process for producing and presenting live theatrical performances in virtual 3D environments that are easily accessible without dedicated equipment.

2 THE PLAY

Jettison, by Brendan Bradley, was originally commissioned and produced by The Swim Shorts Festival— a festival of plays performed in a rooftop swimming pool in midtown Manhattan [Ryzik, 2007]. Set in a lifeboat on the open ocean and featuring a live rabbit, the show is difficult to produce in a traditional theater. In virtual space, however, the constraints of the physical world do not apply, allowing us to present the piece as written. Jettison was performed virtually in Oct. 2020 then in March 2021 with other shows in the OnBoardXR Festival.

3 AUDIENCE EXPERIENCE AND THE THEATRICAL SPACE

By applying the long-established design conventions of real-world theater in our virtual space, we simplify onboarding: the audience recognizes that they are in a theater and intuitively understand their role. We take this further by having a house manager and ushers who help the audience take their seats and can also help resolve any technical issues they may encounter.

4 PROCESS AND PERFORMANCE

Jettison and all of OnBoardXR was rehearsed and performed entirely virtually. The cast and crew were geographically distributed around the country, but being in VR allowed us to feel present in the same space together. Even pre-COVID, theater productions could only

rarely workshop and rehearse a show in the actual space where the final performances will occur. We did this often in our virtual theaters, even testing various forms of the show across multiple devices and browsers through which the audience would ultimately experience it, refining the blocking, pacing, and even overall visual fidelity of the experience accordingly.

5 CONCLUSION

Online virtual theater can continue to allow theater makers to reach wider audiences without making aesthetic or artistic compromises,

and while retaining the immediacy and intimacy of live performance. The approach we have modeled with both Jettison and the larger OnBoardXR festival lowers the barriers to entry for theater artists to be able to begin producing work in virtual space and sharing it with audiences around the world.

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