The Studio X App: Exploring the Challenges of Developing a Cross-Platform XR Mobile App

Barbero James¹, Jakymiw Sebastian², Romphf Josh, Tinker Blair¹
¹University of Rochester

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This talk will focus on the interesting challenges faced by the University of Rochester’s Digital Scholarship Lab while developing a hybrid cross-platform mobile app to promote Studio X, a new learning space for working with XR technologies. Our goal was to create a piece of easy-to-use software that could highlight virtual (VR) and augmented reality (AR) work developed at UR. The concept of the app is deceptively simple; users can select to view either cardboard-enabled VR sequences or use an AR tool that allows them to interact with various UR-related 3D models.

I. HIGHLIGHTING PRACTICAL CHALLENGES

It is worth noting that there is nothing technologically groundbreaking about the app itself. Rather, our hope is to speak to the practical challenges of making this project a reality while working under a fairly tight timeline with limited resources. From producing mobile-friendly 3D assets to navigating the pitfalls of App Store / Play Store distribution, we will present some of the solutions we’ve devised and the lessons we’ve learned throughout the pipeline of the project.

In particular, Visual Technologist Jim Barbero will speak to his development of physically based assets used in both the AR and VR portions of the app. GIS Research Specialist Blair Tinker will then outline his construction of UR’s Eastman Quad using imported terrain data. Finally, Programmer Josh Romphf and Student Programmer Sebastian Jakymiw will discuss some of the techniques and tools they developed in order to tie everything together.

Fig. 1. The main menu of the Studio X app.

II. CONCLUSION

The ultimate goal of this talk is to demystify the process of developing a Unity mobile app from beginning to end in a world where the technologies in question are in constant flux. In particular, we hope to provide insight to faculty and staff who are starting out in this area and are looking for a means of planning and developing projects under similar constraints.

Fig. 2. The AR and VR portions of the Studio X app, respectively. The iOS version can be downloaded here, while the Android version can be downloaded here.