

CSE 199 in Spring Quarter 2019

Spatial Visualization Trainer for Android Smart Phones

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4 Units (10 hours/week)

Summary:

Develop a virtual reality rendering module for the CalVR software running on Android phones to train spatial visualization.

Software tools and programming languages:

C++, OpenGL, Java, Android Studio, CalVR, OpenSceneGraph

Objectives:

CalVR is an open-source virtual and augmented reality middleware system developed by the Immersive Visualization Laboratory at UCSD. The application aims to simplify platform-independent development of VR and AR applications. In this project we are going to use the Android version of the software, running on smart phones to develop a training application for freshmen in the engineering department to improve their spatial visualization abilities. The goal is to offer this application to all engineering freshmen at UCSD.

Timeline:

Week 1: Learn how to develop VR applications with CalVR

Week 2: Learn how to develop Android apps

Week 3: Learn how to use ARCore and PhysX

Week 4: Based on existing spatial visualization app, add more puzzles in all categories

Week 5: Add scoring mechanism for puzzles

Week 6: Add tutorial to the app

Week 7: Improve UI usability

Week 8: Bug fixing and final touches

Week 9: Create documentation and submit to Android app store

Week 10: Create demo video and present at IVL team meeting