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Hyperion: A 3D Visualization Platform for Optical Design of Folded Systems

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VR Cinema VR Tangram Puzzle Game and 360-degree Panoramic Video

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Abstract — For this demo, I have created two projects—VR Tangram puzzle and 360-degree panoramic video—using Unreal Engine. The VR Tangram puzzle game was created using an environment built and modeled by a student peer in the 3D Digital Design program at RIT, Regina Niu. I then scripted the visual with blueprint in Unreal Engine using gravity, grabbing, and absorption. This game is made to show the traditional tangram puzzle game in a new interactive form, with the goals of arousing childhood memories in adults and helping youth have a better understanding of the past culture. The 360-degree panoramic video is a personal technical attempt by me after research and study. I used the Stereo Panoramic Movie Capture plugin and Scene Capture Cube tool and chose the monoscopic as final presentation. These steps yielded a relatively simple method to achieve panoramic effect.

Keywords — Unreal Engine, panoramic video, games, Cinematography, Lighting, Composition, VR

MEDIA



Figure 1 Tangram puzzles play-through video screen shot

Videos: For watching this video, no requirement is necessary for the device. The best platform is mobile phone and PC.

VR Walkthrough

<https://youtu.be/lyxTkb4-rgQ>

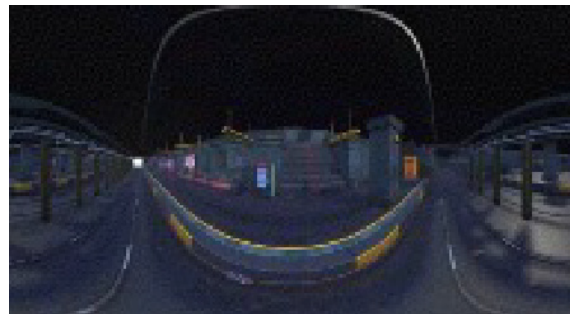


Figure 2. Panoramic video screen shot before “export as VR video”

360 Walkthrough

<https://youtu.be/KOQmVbh3tG8>

Panorama

<https://youtu.be/L6AuDSIYqyE>