

Ascension in Flight Testing Capabilities

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Abstract: In conducting research, an effort is made for the most accurate experimental results. For years, enclosed-cockpit flight simulators have been the best way to provide an authentic flight simulation. Now that Virtual Reality (VR) technology has become mainstream, new opportunities for realistic simulations arise. While both of these methods individually provide great substitutes for real flight, a combination of the two methods could create the most ideal conditions to perform test flights. This would be done through a melding of Augmented Reality (AR) and VR technology to create a blended view. The goal is to use machine learning technology to stream video feed which an algorithm alters to remove everything in the field of view except for our physical console. This would then be blended into the VR video feed to allow the pilot to be in the virtual cockpit and be able to see and interact with the physical controls. In theory, this would better provide pilots with the tactile interactions of a real cockpit, as well as immerse them in the simulation. In theory, this would allow for more accurate results as pilots would be inside of a cockpit and be able to interact with it. This melding of views is to be done through DLLs in Microsoft Visual Studio and plugins in the flight simulator XPlane 11.

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