

The Impact of VR/AR Capabilities on Flight School Throughput

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Abstract: The United States Army's flight school in Fort Rucker, Alabama is the Army's primary location for training new pilots. The average length of flight school is 18-24 months. This six-month range is caused by several factors. The main factors of the range are due to having limited number of aircraft and instructor pilots, weather delays, and maintenance downtimes. If an aircraft is under maintenance, a trainee will be put on a waitlist, or "snowbird" status, until either the aircraft is repaired, or a slot is open for the next class. There are several stages in flight school that trainees can experience a snowbird status. The accumulation of the snowbird status is a leading cause of such a long training process. Virtual reality (VR) and augmented reality (AR) technology have been developing rapidly and flight school is currently implementing VR/AR in its training to increase throughput. Current studies on this topic show that roughly three hours of VR/AR training equate to one hour of actual flight time. This study will focus on using a simulation model, built in ProModel, to see which phases of flight school VR/AR will impact the most in terms of increasing throughput and decreasing wait times. Using the outputs of the simulation, the secondary goal of the study is to conduct a cost benefit analysis of implementing VR/AR into the various phases.

Keywords: Virtual Reality, Augmented Reality, Flight School, Simulation