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3D Interactive Training

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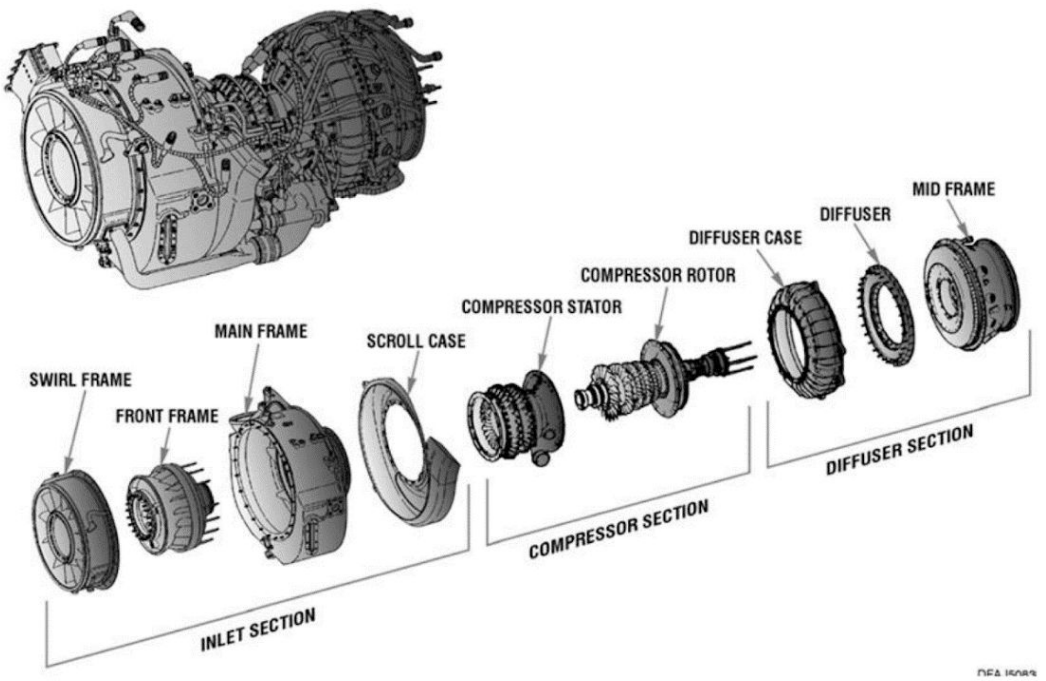
The goal of this project is to demonstrate the capabilities of digital animation and 3D interactive media to enhance visual training aids in Department of Defense training programs specific to aviation. This proposal is to create an interactive project that highlights the T700-GE-701C/D variant turboshaft engine currently used in multiple military aircraft including the AH-64D Apache helicopter.



The Army and DoD currently use dominantly 2D visual training aids and illustrations to train pilots, crewmembers, and maintainers in military aviation. With this project we will bring these training aids into 3D and add interactivity through either Augmented Reality (AR) or desktop application. Demonstrating the technology and student ability that exists in 3D animation and interactive applications at UAH with this project would be an outstanding way to showcase the capabilities of a new lab venture (Serious Games, Graphics, & Visualizations - SGGVis Lab) between the Dept of Art, Art History & Design and the Rotorcraft Systems Engineering and Simulation Center.

The RCEU student will research the engine and components and then model and texture the optimized real-time meshes needed to demonstrate a key system of the engine assembly. The

student will arrange or rig the models as needed and then create the necessary animations for the project. The student will also load the assets into a game engine and setup appropriate materials in the engine. In addition to 3D assets, the student will also create 2D graphics needed for menus and other user interface elements. As a collaborative project with the RCEU faculty member, an emphasis will be placed on industry best practices such as scene upkeep, file naming, and proper use of version control.

This project will have an intense schedule, but is an outstanding opportunity to learn and develop artistic and technical skills, gain a better understanding of industry best practices, as well as produce portfolio work. A positive attitude, good organizational skills, strong communication, and self-motivation are important traits the successful student will need for this role.

Students interested in this position need to have a solid understanding of the 3D CGI pipeline and are required to have completed ARS 220 Animation: Introduction, ARS 325 Hard Surface Modeling, and at least one additional 300 level 3D animation skill development course (ARS 32X) before the RCEU project begins. Students with at least one 400 level animation production course (ARS 41X or 42X) are preferred.

The student will work on site with RCEU faculty team member in Wilson Hall. Working hours will be flexible. Faculty member will not just be supervising & mentoring, but will also be working on the project, so regular contact will be vital to the success of the collaboration. Direct interaction will occur daily to assess progress, talk about issues or potential roadblocks, and to evaluate technical and artistic work completed. Thoughtful, detailed feedback will be provided, and is expected in return. Help will always be available, but a good deal of independent troubleshooting and problem solving is expected.