

TRANSFORMING MEDICAL TRAINING FOR NON-MEDICAL PERSONNEL



PROJECT	NGRAIN [®] PRODUCER [®] FOR ANATOMY AND PHYSIOLOGY TRAINING
CLIENT	UNITED STATES AIR FORCE
KEY OBJECTIVES	<ul style="list-style-type: none"> ▶ ENABLE TRAINING TEAM TO DEVELOP 3D SOLUTIONS ▶ INCREASE COMPREHENSION OF COMPLEX ANATOMY ▶ CREATE FLEXIBLE AND DEPLOYABLE TRAINING TOOLS

CHALLENGE

A key part of preparing non-medical airmen to provide emergency medical support is training in anatomy and physiology. Traditionally this training would be delivered using 2D animation videos, training manuals, and plastic models. However, students were often unable to understand the location of the Sphenoid bone inside the skull, which highlighted the need to innovate the delivery of this training.

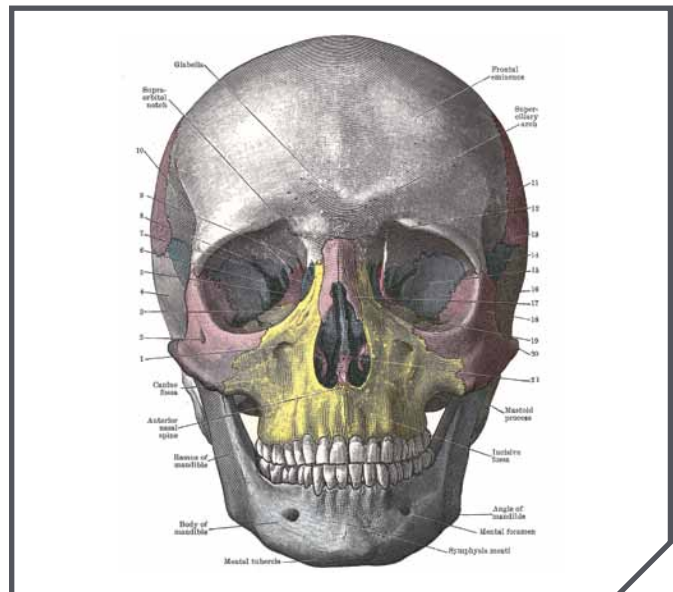
BACKGROUND

The medical training of deployed airmen can mean the difference between life and death. That’s why, with the average number of United States airmen overseas at 28,000 and more than 375,000 airmen deployed to war zones since 2001, it is increasingly critical to equip airmen with the medical knowledge and skills needed to help keep personnel alive, until medical professionals are able to reach them.

“Time and time again, we heard plenty of stories... about Airmen performing more and more ground missions outside the wire. Gun truck stories, patrols, medical evacuations, you name it, it came up here.”

US Air Force Live

The Official Blog of the United States Air Force. May 13, 2009



Traditional text-book drawing of human skull

SOLUTION

Looking to interactive 3D visualization technologies, the Medical Training Team selected NGRAIN as the solution that would provide both the interactivity and visualization features required, and allowed for quick, easy development and deployment, without any programming or scripting. Using a 3D model of the skull from an online 3D model catalog, the Medical Training Team used NGRAIN Producer to add information (such as part colors and names).

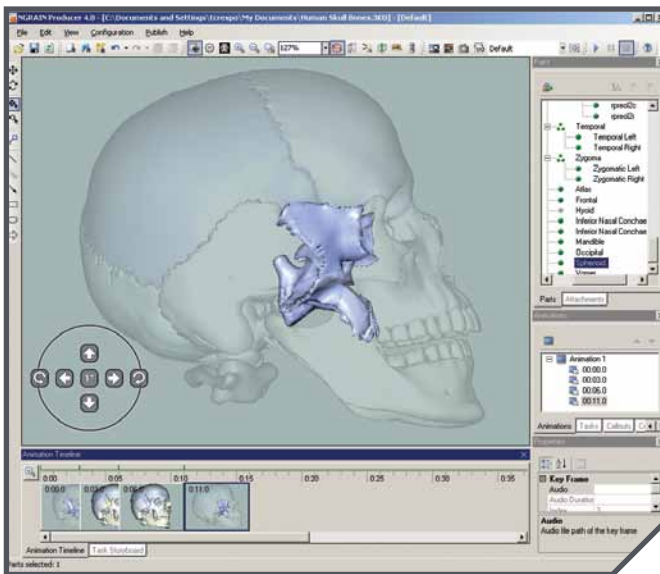
NGRAIN's Viewer application was then provided to students, enabling them to explore the 3D skull in real time, removing and replacing bones, reading callouts with textual information, and viewing interior bones, including the Sphenoid, within the context of a "ghosted" skull.

Subject Matter Experts also used Producer's easy "click and capture" animation tool to create overview animations that were exported as videos. Students were able to view these videos over the web as part of familiarization training.

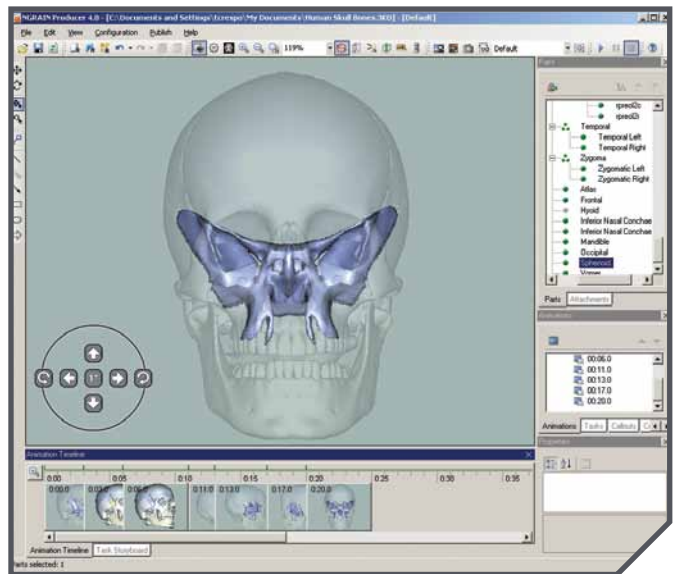
RESULTS

NGRAIN's interactive in-context "ghosted" viewing capability has eliminated the confusion that once existed. Students are able to quickly see and understand where bones are located and how they interrelate. Due to the positive response from students, the 3D skull is being used in a number of medical training courses today.

Overall, NGRAIN Producer is both a fast and cost effective solution to implement, enabling the advanced delivery of critical, potentially lifesaving training.



Ghosted view of sphenoid bone from side view of skull



Sphenoid bone easily visualized by students using NGRAIN