

3-D VISUALIZATION IN SCIENCE: UTILIZATION OF 3-D PROJECTION SOFTWARE TO DEPICT HUMAN GROSS AND MICROSCOPIC ANATOMY OF THE PANCREAS. *E. Binotto, J. Brandon, G. DeCelles, Department of Medical Illustration, P. Craig*, Department of Chemistry, pac8612@rit.edu, R. Doolittle*, Department of Medical Sciences, rldsbi@rit.edu*

The objective of this project was to create a 3-D stereoscopic learning environment to enhance student comprehension of human anatomy down to the microscopic level. As part of an initial pilot, graphics and animations were created to allow the user to travel into a 3-D stereoscopic human digestive system and view organs from multiple angles instead of one; a major advantage over learning from a standard 2-D image. In particular, the user can travel into the pancreas and examine this organ down to the cellular level. Construction of a 3-D learning environment was possible through the use of multiple software utilities. Specifically, models were created from polygonal surfaces in the software program, Maya, and then rendered into jpeg files and converted into QuickTime movies. The movies can be projected onto a polarized screen from two linked projectors. Issues remain, including the necessity for a software platform conduit between the QuickTime movies and the 3-D projectors. The software program, Tri-d affords this capacity to convert QuickTime movies into stereoscopic animations. In the future, this technology will allow students to learn from a library of 3-D tutorials consisting of various organ systems of the body.