



Virtual Animal Anatomy (VAA) - VR Build

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Innovation

The development of VR-based anatomy education programs has been limited by the challenge of creating photorealistic 3D models of large or complex cadaveric specimens.

- Anatomy instruction using cadavers is essential for professional medical education.
- Anatomy is a challenging subject and the use of cadavers for instruction can be fraught with ethical and financial challenges.

Background

Virtual Canine Anatomy (VCA) is CSU's flagship 2D virtual animal anatomy program.

- Reduces cadaver use
- Allows for self-directed learning¹
- Enhances student confidence¹
- 2D VAA licensing is available as an LTI with your university learning management system

Solution

Our team perfected a workflow to create 3D assets from highly complex anatomical specimens.

These 3D assets are interactive, anatomically accurate, and can be used to create a high-fidelity, VR animal anatomy program.

Advantages:

- ✓ Capture anatomical specimens of any size
- ✓ Transform QuickTime™ Virtual Reality (QTVR) videos from the VCA into 3D assets for VR

Current and Future Directions

- Seamlessly integrate multispecies comparative animal anatomy
- Highlight anatomical features with data that remains visible during rotation
- Serve as a multiplayer tool to allow instructors to facilitate a learning environment outside of the cadaver laboratory
- Enhance the anatomical experience at CSU and beyond

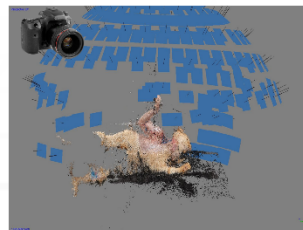
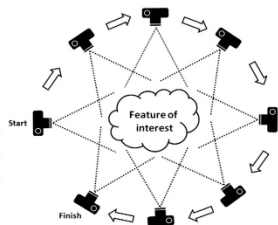
Team

CSU's Virtual Veterinary Education Tools (VVET) development team has decades of collective experience and expertise in dissection, animal anatomy education, and instructional design within virtual education. For more information about our virtual programs, educational licensing, or contact information, please visit the VVET website <http://www.cvmb.colostate.edu/vetneuro/>

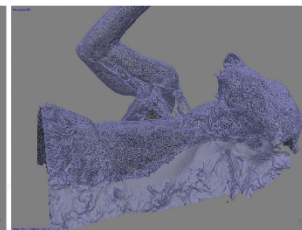


Workflow

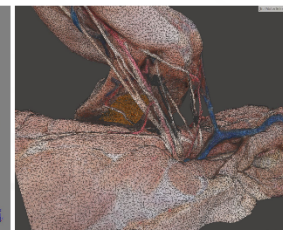
Creation of 3D Virtual Assets



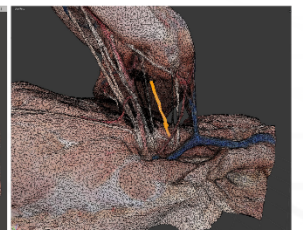
Robotic Image Capture (QTVR)



Stereophotogrammetry



Modeling



Object Editing

¹Linton A, Schoenfeld-Tacher R, Whalen LW. 2005. Developing and implementing an assessment method to evaluate a virtual canine anatomy program. J Vet Med Educ. 32:249-54.