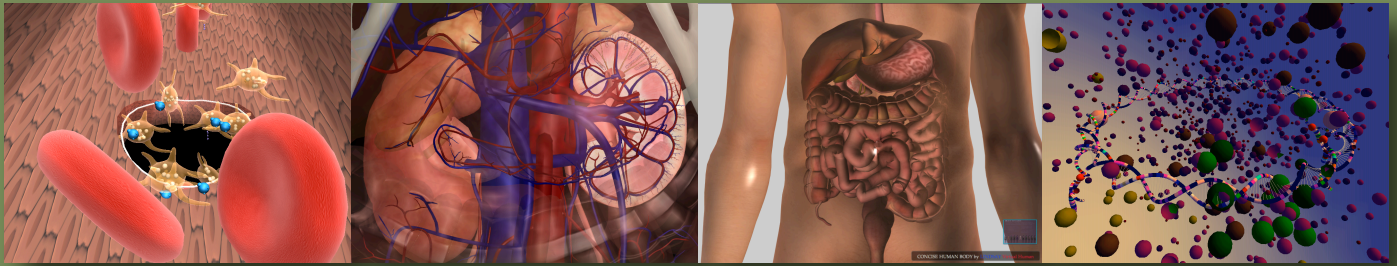


LINDSAY Virtual Human

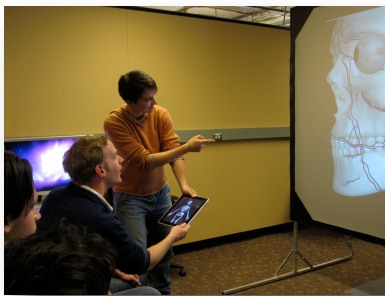


LindsayVirtualHuman.org

Newsletter — May 2, 2011

Bringing Virtual Anatomy and Physiology Alive

The Lindsay Virtual Human (LINDSAY) project creates interactive, 3-dimensional computer models of male and female anatomy & physiology for medical education.

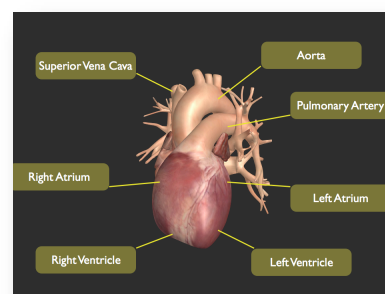


Many of us might not remember the movie “Fantastic Voyage”, where a submarine is shrunk to miniature size and injected into the blood stream of a human. On board are medical researchers trying to save their patient. Of course, they get in trouble and a cinematic adventure unfolds.

The “Fantastic Voyage” was released in 1966. How close are we to this science fiction scenario today? Well, we still cannot shrink objects to desired sizes, whether large or small — at least not in our physical world. However, computer software is opening tremendously exciting new possibilities. We can create intricate and highly complex universes inside our computers. Using touch-based interfaces and immersive 3D rendering, we can make computers interact with us in a seamless way. We can create the illusion of diving into new and fascinating universes — large or small. This is the basic idea behind the LINDSAY Virtual Human: We are building

infrastructures that integrate sophisticated software for graphics, physics simulations, and interactivity with the sciences of anatomy and physiology. LINDSAY combines state-of-the-art information technology with medical expertise to create cutting-edge educational solutions.

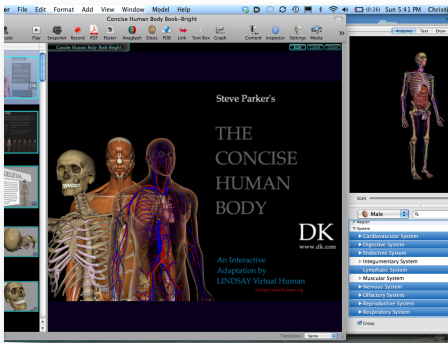
In the following sections we briefly describe our three current development branches: **LINDSAY Presenter** is an in-class presentation tool for male and female anatomy. **LINDSAY Composer** provides a graphics-based programming environment for



composing complex physiological scenarios. With **iLINDSAY Mobile** we explore the potential of mobile devices for running models of anatomy and physiology,

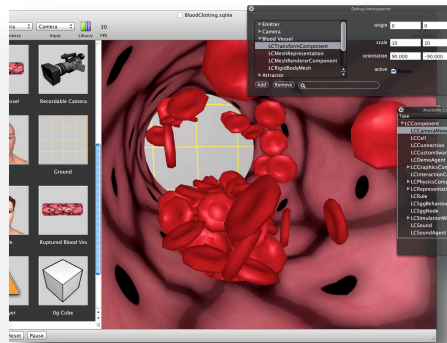
tightly integrated with LPresenter and LComposer.

For more information about the LINDSAY project visit: <http://www.lindsayvirtualhuman.org>



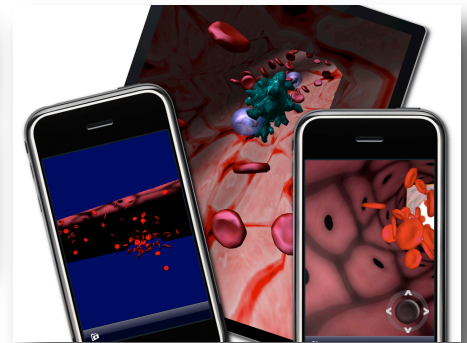
LINDSAY Presenter

Lindsay Presenter (LPresenter) is a first prototype of a presentation tool for interactive, 3-dimensional anatomical contents to be applied by instructors in medical schools. Students can use LPresenter to review contents from the lectures, prepare for exams, use quiz-type inquiry, or help with general as well as specific questions about anatomical structures. LPresenter has a built-in anatomy database and searchable atlas, which provides easy access to anatomical contents. By means of mobile devices, such as the iPhone/iPod and the iPad, one can navigate and explore a structured collection of 3D scenes intuitively and interactively.



LINDSAY Composer

Lindsay Composer (LComposer) provides access to simulations of physiological processes. LComposer integrates physiology contents into medical teaching and learning resources as a computer-based modeling and exploration tool for human physiology. Similar to LPresenter, LComposer allows to program and compose physiological scenarios, which would illustrate key concepts of human physiology. LComposer also incorporates a graphical programming environment, so that simulations and computer models can be assembled without any prior programming experience.



iLINDSAY Mobile

With iLindsay Mobile we explore educational applications on mobile devices — such as iPads, iPods, and iPhones — to better understand how these highly portable, touch-enabled devices can enhance the teaching and learning of anatomy and physiology. The ability to directly interact with 3-dimensional anatomical structures by “touching them” turns out to be of key importance. By using simple gestures to point, select, rotate and zoom one can create a much more intuitive and seamless user interfaces. The actual device does no longer get in the way of explorative investigation and learning.



In memoriam of Dr. Lindsay Kimmett

The LINDSAY Virtual Human project is dedicated to Dr. Lindsay Kimmett, a highly respected UME student, class of 2009. We think, Lindsay would have appreciated the latest in advanced, computer-supported learning for her own medical education,

which she never had the chance to finish. The LINDSAY development team truly appreciates support from Diane and Kelly Kimmett, the Kimmett family and their wonderful friends. We hope to make you all proud.

The LINDSAY project is a collaboration between [Undergraduate Medical Education \(UME\)](#) at the [Faculty of Medicine](#) and the [Evolutionary & Swarm Design Lab](#) in the Department of Computer Science at the Faculty of Science, University of Calgary.