

New Life for Old Meshes

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The Visible Human Project has been instrumental in developing a plethora of educational products, and maintaining exciting research objectives in the world of medical informatics. The Visible Human Project has established a community willing to break down barriers between the biological, computational, and educational fields in the academic and commercial worlds.

In this paper we would like to demonstrate a modern mode of commercially supported web based delivery of products developed from the VHP data set for commercial research several years ago. The underlying object meshes were privately developed and provided to this project by Quetzal Biomedical Inc. These meshes were developed with great labor and expense and they are still being used for various research projects in continuum mechanics modeling. Even with this in mind it has been accepted that putting these meshes into the public hands for the development of educational tools is the correct use for them.

Porting the meshes to a usable format and the building of the shockwave demonstration viewable publicly over the Internet turned out to be a minimal development project. It is assumed that linking to a mature anatomical knowledge-based system will also take minimal development, so we would like to explore the feasibility of putting together a complete web based human anatomical model.

With expert opinions from leaders in structural informatics, high performance computational sciences, biomedical device, and gaming industries, we would like to summarize what it would take to build an openly shared educational content resource. To summarize, it is assumed that a small, part time development group would need to be formed to perform the following tasks:

1. Find and link to a comprehensive symbolic knowledge base for anatomical classification previously developed and publicly accepted as complete. This knowledge base should be used to help organize and classify the structures.
2. Maintain property rights of groups owning and donating meshes to the developed educational resource. The mesh information must remain property of the owner and must be distributed in a form not easily decoded.
3. Maintain the mesh arsenal in a form that can be easily converted from one platform to another. Yesterdays VRML is today's Macromedia Shockwave, and we have no idea what people will be using tomorrow.
4. Build a mesh licensing structure to extend right to use licensing to developers of commercial 3D applications, such as game builders, with the extension of the intent to maintain original owner property rights for educational products.