



HARVEY PROJECT & DATABASE
<http://harveyproject.org>

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What is the Harvey Project about?

Developing web-based materials for an introductory-level human physiology class. A collaboration among colleagues in physiology, medicine and related disciplines, across universities, communicating primarily via email.

A demonstration project to develop paradigms, procedures, standards and software that can be reused for teaching other sciences.

Developed materials will be suitable to accompany a lecture, for students to review on their own, or to serve as an "electronic textbook."

Developed materials are in the public domain, including all source (Perl, Java, etc.). We will create a license agreement similar to the Gnu Public License.

Nothing proprietary. No commercial software included unless source code and permission to distribute are given. No commercial or proprietary images without permission to distribute.

Why the Name?

Sir William Harvey, physician to King Charles I, was a famous teacher of physiology and author of *de Motu Cordis*, a masterpiece of clear exposition which demonstrated for the first time the circulation of the blood. Since the goal of this project is to teach physiology as clearly as possible, Harvey is an

appropriate model. The fact that Harvey was also an invisible rabbit is apposite for a course that exists only in cyberspace.

Philosophy

Incorporate the best teaching materials and methods that are publicly available. The goal is to draw students into the material so as to foster interest and understanding. Virtually every screen must be interactive. Make extensive use of animations, simulations, 3-D models and experimental or pathological results to help students master underlying principles.

Exams would not be part of project, both for security, to allow for customization in scope and depth, and to keep control within the universities. They will be the responsibility of each university.

The material must be constantly updated in light of current research. Ideally the present, arbitrary distinction between those who do the research and those who write the textbooks will diminish or disappear. Everyone in the field of physiology or physiological medicine should feel he or she is a stakeholder in this project and contribute to it.

Why use digital media?

Digital, "knowledge media" such as CD-ROMs and the Internet are quickly transforming the way we teach science. A lecturer explaining the ear can show his class an accurate, 3-dimensional cochlear model and rotate it on screen. When describing the cardiac cycle, he can show them an NMR movie of a normal, beating heart as a video clip. Students learning about blood pressure can investigate for themselves the effects of vasodilation, cardioacceleration and loss of blood using a simulation. However well a professor can teach these subjects with a blackboard and overhead transparencies, he can be more effective by using appropriate digital materials. The trouble is that such materials, though clearly superior, are generally not available yet and are difficult to develop. That is the *raison d'être* of the Harvey Project.

Why use the Internet?

The wide and growing acceptance of the Internet makes it the best medium for instructional development, particularly for public domain materials. Web-based materials are more easily updated and have a much lower distribution cost than CD-ROMs. The only advantages CD-ROMs enjoy over the web are greater bandwidth -- seldom a major issue in physiology -- and portability. The latter is offset by the fact that materials designed for a web browser can generally be stored on a local hard disk, or even distributed by CD-ROM. Wholesale delivery of classroom materials over the Internet will have a profound effect on higher education, its students and its institutions.

Why public domain?

Since there is no concept of geographical distance on the Internet, professors will choose to use the best materials that are available to them. What good will it do me or anyone else if the neurophysiology site I spend thousands of hours developing turns out to be only second best, and is generally ignored? On the other hand, no academic institution or granting agency appears ready to step forward and fund the development of a truly world-class site for teaching physiology or any other subject. Indeed, there is no worn path showing how to do this because it hasn't been done yet, in any field. Only if we work together can

we build something that will be head and shoulders above everything else and set a new standard. Working in the public domain fosters a spirit of openness and cooperation that will attract others to the enterprise and make the work move faster. If we faculty don't rise to this challenge we may find the opportunity taken out of our hands by a Prentice-Hall, a Microsoft or a Time Warner.

What skills do I need to participate?

Whatever you can contribute. If you are a skilled teacher, scholar or technologist, and especially if you combine more than one of these roles, Harvey needs you. The skills we need are, first, a sense of what students can "get" easily and what is intrinsically hard for them to grasp, educational design talent, a sense of visual style, a deep understanding of current research, a knack for explaining how things work, and medical illustration skills. On the technical side, we will need programming ability in Java and Perl, HTML and javascript design talent, database and system administration skills, and maybe even a lawyer or two to draft a license agreement. The point of a collaboration is that no one has or needs to have all the necessary skills. We will adopt a constructive peer review process where, if someone thinks he can improve on something, he will try to do so. Differences of opinion about pedagogy, design or implementation will be settled by reasoned debate, followed by a vote.

What's in it for me?

1. long hours of unpaid work;
2. the challenge of finding the best way to get students to understand your corner of physiology;
3. the pleasure of collaborating with like-minded colleagues committed to a common goal;
4. the satisfaction of making a lasting impact on how physiology (and perhaps other sciences) will be taught from now on;
5. a share of whatever glory may eventually accrue.

Currently Available Resources:

Development Tools: Macromedia and Asymetrix products. We are currently a Beta-testing site for Asymetrix.

Graphic artists and HTML developers are part of the project.

Links to great resources.

COMING SOON: a chat room and list-server for members to discuss pedagogical and development issues.