Restructuring PITTMed Curriculum Online (PCO): A Participatory Design/Open Source Software Approach

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ABSTRACT

In this presentation, I will demonstrate a web-based curriculum resource for medical education and explain how its design and development have been affected by the intersection of two major developments: (1) open source software and the internet-based open source community and (2) growing student and faculty interest in and knowledge of the web as an educational resource. I will also trace the links between our project and an earlier version and situate the project in its curricular, technical, institutional, and social contexts. Finally, I will consider the effect team members' multidisciplinary backgrounds and curricular and institutional roles and interests have on the design process.

KEYWORDS

web, medical education, open source software, participatory design, database-backed websites, online curriculum resources, intelligible computing systems

INTRODUCTION

As Lucy Suchman observes, affective metaphors such as user friendliness do little to make computers easier to use and actually "mystify computing, when we should be working to make it more understandable." [1] Academic medicine is one setting which welcomes a systems design approach that

views computer users as intelligent and strives to make the computer system--as well as the tasks performed via the computer--intelligible.

This past spring, a design team consisting of faculty physicians and researchers, medical students, and a systems designer at the University of Pittsburgh School of Medicine began a systematic restructuring of our curriculum website. Our major goal is to increase the value of the site as a tool for research, instruction, and collaboration by including more content and providing a more uniform, intelligible design. Although redesign and restructuring of the PITTMed Curiculum Online (PCO) formally began with a proposal from two second-year students, a content rich, easily maintained curriculum website with a uniform, intelligible interface was the goal of PCO designers from the outset. Under the direction of the Curriculum Committee, the Office of Medical Education began making images accessible online as early as 1995. Initially approximately 500 computer-based images were available to first- and second-year students. [2] In five years, that number has grown to nearly 3,000.

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CURRENT PROJECT

>From the beginning the PCO was envisioned not simply as a repository of images but as a "database of curricular content," a resource for the "integration of curricular content across courses and disciplines...," and a tool for "faculty members who are charged with organizing, teaching, and managing the curriculum." [3]

In this presentation, I will demonstrate the PCO and explain how the intersection of two major developments enables us to translate the vision of the original architects into reality. First, open source software and the internet-based open source community provide the tools and collective knowledge that enable us to replace thousands of static HTML pages with a

dynamic, integrated easily-maintained system consisting of a carefully crafted database and a few intelligently designed scripts. Second, growing student and faculty interest in and knowledge of the web as an educational resource enables--indeed, encourages--us to involve users of the system in its design from start to finish.

I will also trace the links between the original PCO design and our current project and situate the project in its curricular, technical, institutional, and social contexts at the School of Medicine and the University.

Finally, I will consider the effect team members' multidisciplinary backgrounds and curricular and institutional roles and interests have on the design process. The design team includes a neurosurgeon who completed a biomedical informatics fellowship, led the original PCO design effort, served as the first director of the Office of Medical Education, and is currently senior associate dean of the School of Medicine; an emergency room physician with a background in biomedical engineering who played a major role in the design of the third-year clerkship curriculum, and is the current director of the Office of Medical Education; two students with significant computer programming skills who have completed the

first two years of medical school and are members of the student Computers in Medicine organization; two reproductive and developmental biologists, one a member of the original curriculum design team and the current associate director of the Office of Medical Education; the other the architect and course director of the Reproductive and Developmental Biology course who has a strong commitment to web-based education; and a web systems designer/manager with degrees in English, a background in ethnography and literature, work experience in technical writing, and expertise in database development and system administration who learned about computers by asking programmers questions, then constructing intelligible answers from their responses, acquired programming skills in order to create the code examples she was unable to persuade the programmers to develop, and wonders if she should be proud or insulted or surprised when someone presumes she's a "techie."

REFERENCES

[1] Quoted in Toft, D. (1999). Synthetic emotions: HAL on the desktop. PC WORLD MALTA August 12, 1999. (Reprinted on the web at http://www.bms.com.mt/specials/emotion/).

[2] Kanter, S.L. (1996). Information management of a medical school educational program: A state-of-the-art application. JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION 3: (2) 103-111 Mar-Apr 1996.

[3] Kanter (1996). p. 110.