Development of Infobuttons in a Wireless Environment

Jianbo Lei, MD, MS; Elizabeth S. Chen, MPhil; Peter D. Stetson, MD, MA; Lawrence K McKnight, MD; Eneida A. Mendonça, MD, PhD; James J. Cimino, MD
Department of Biomedical Informatics, Columbia University, New York, NY, USA

Introduction: At Columbia-Presbyterian Medical Center, a clinical information system (CIS) called WebCIS is used by health care providers. We have developed a palm-based extension to WebCIS, called PalmCIS, which provides physicians access to clinical data through a wireless connection. As part of PalmCIS, we have added links to two on-line information resources: PubMed and Micromedex.

Interface: We integrate the resources with PalmCIS in three ways. First, we provide a text field (called the PubMed search infobutton) to accept PubMed search strategies and return the search results as brief citations with links to full citations or abstracts. Second, the application generates links (called microbiology infobuttons) from culture results to PubMed. Third, the application generates links (called sensitivity infobuttons) from culture sensitivity results to Micromedex.

Architecture: PalmCIS uses a standard Web browser and standard HTML. Infobuttons are CGI calls to the PalmCIS back end, where a retrieval algorithm creates appropriate external CGI calls to PubMed and Micromedex. Query results are parsed and converted to HTML for display to the user.

Discussion: PubMed and Micromedex have been chosen because of their accessibility and popularity

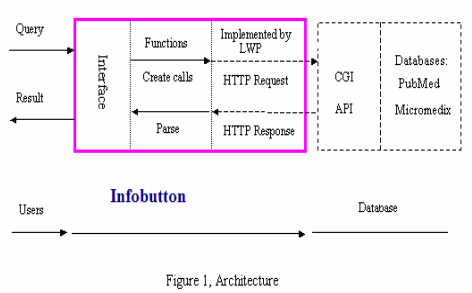
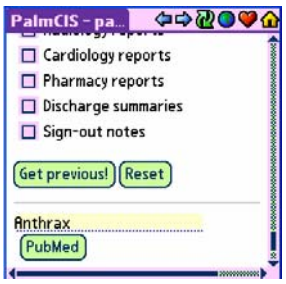


Figure 1, Architecture

with clinicians. Integration of clinical applications, especially electronic medical record systems, to scientific evidence, clinical practice reports and guidelines, as well as to other decision-support tools online has the potential to address patient related questions and benefit patient outcome. Our project is an early attempt to provide this kind of support in a wireless, hand-held environment. Our next task will be to analyze users' log files to identify usage patterns and evaluate the utility and usefulness of these infobuttons, with the ultimate goal of demonstrating improved quality of care and reduction of errors.

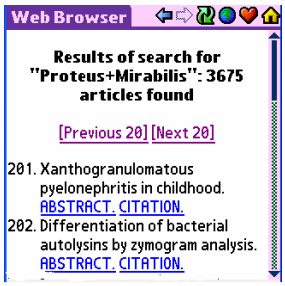


Pubmed Search Infobutton

Details of PubMed Search

PubMed Abstract

Microbiology and Sensitivity Infobuttons



Results of Microbiology Infobutton

Results of Sensitivity Infobutton