

UNIVERSITY OF WESTMINSTER



WestminsterResearch

<http://www.wmin.ac.uk/westminsterresearch>

An interoperable, graphical environment for the capturing of medical information.

Fefie Dotsika

Westminster Business School, University of Westminster, UK

Andrew Watkins

University of London, UK

Reprinted from *Technology and Health Care*, 11(5), Dotsika, Fefie and Watkins, Andrew, An interoperable, graphical environment for the capturing of medical information, pp. 305-306, Copyright © (2003), with permission from IOS Press. The definitive version is available online at:

<http://iospress.metapress.com/openurl.asp?genre=article&issn=0928-7329&volume=11&issue=5&spage=289>

The WestminsterResearch online digital archive at the University of Westminster aims to make the research output of the University available to a wider audience. Copyright and Moral Rights remain with the authors and/or copyright owners. Users are permitted to download and/or print one copy for non-commercial private study or research. Further distribution and any use of material from within this archive for profit-making enterprises or for commercial gain is strictly forbidden.

Whilst further distribution of specific materials from within this archive is forbidden, you may freely distribute the URL of WestminsterResearch. (<http://www.wmin.ac.uk/westminsterresearch>).

In case of abuse or copyright appearing without permission e-mail wattsn@wmin.ac.uk.

An interoperable, graphical environment for the capturing of medical informationFefie Dotsika^a and Andrew Watkins^b^a*University of Westminster, United Kingdom*^b*University of London, United Kingdom*

From pathology, diagnostics and treatment, to patient history and lifestyle, medicine is a true science of information. As medical information is growing, its management and utilisation becomes more challenging. While the current generation of electronic healthcare applications keeps on multiplying, doctors, patients and medical administrators are faced with the task of choosing the right application that will enable them to find and use the relevant information at the right time.

Resulting from the recent experimental deployment of functional database management systems for the storage, manipulation and retrieval of medical information [1,2], MedISD (Medical Information System Design) has been developed, a web-based, graphical, information modelling environment, which enables practitioners to model their own custom-made healthcare information systems. The development of MedISD was deemed necessary following the agreement for the trial use of the system with NHS primary healthcare data.

MedISD focuses on improving healthcare practice by enabling custom schema modelling, direct representation and flexible use of medical knowledge, and support of metadata and multimedia content.

The aim of the system is thus to significantly reduce the complexity of developing medical information systems, from primary healthcare data pools to distributed e-health applications. No technical knowledge or database expertise is required apart from basic desktop environment skills. The tool captures information in the form of directed graphs and automatically generates tailor-made medical database schemas based on the functional data model. The system supports complex objects, user views and it is further integrated by providing an XML interface that allows for interoperability with other databases and medical knowledge repositories in general.

References

- [1] F. Dotsika, Modelling medical operational knowledge for e-health applications, *International Journal of Health Care Engineering, Technology and Health Care* **10**(6) (2002), IOS Press, Amsterdam.
- [2] F. Dotsika, From data to knowledge in e-health applications: an integrated system for medical information modelling and retrieval to appear in the *International Journal of Medical Informatics and the Internet in Medicine*.
- [3] F. Dotsika and A. Watkins, Integrating Web-Based Information Systems: WWW and the Functional Model, Proceedings of the IASTED Conference on Internet and Multimedia Systems and Applications IMSA2002.