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Editorial - Web 2-0- next-generation web applications in health care

Welcome to the June edition of Health Care and Informatics Review Online "Web 2.0: next-generation web applications in health care". The edition, as its title implies, focuses on Web 2.0 and the many and varied applications it has in health care.

In his seminal essay "What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software", published in September 2005, Tim O'Reilly, company founder of O'Reilly Media, chronicled the genesis of Web 2.0 and provided seven basic principles of Web 2.0.[1]

It has been proposed that the first three of these principles are probably the most important and, arguably, the most applicable to health care.[2]

"The web as platform" refers to the principle requiring that the software of a Web 2.0 company has to be Web-based, has to provide a service and that service has to be structured so that the more people use it, the better it becomes. O'Reilly described it as "an architecture of participation." eBay is an example; as more buyers and sellers participate, the broader the eBay market becomes, creating more value for the customer.

"Harnessing collective intelligence" is the second key principle, also referred to as "the wisdom of crowds". Conn's interpretation of this principle is that "to avail themselves of this wisdom, Web 2.0 developers must create applications that are dynamic, with user participation designed into the systems, so that participation itself becomes an integral part of making the underlying database more valuable".[3] For example, Amazon.com adds value by enabling readers to write and post reviews of software and books, and to take other actions such as prepare wish lists.

O'Reilly's third principle, "Data is the next 'Intel inside' " highlights that specialised data, enhanced through analysis by the service provider as well as by contributions from service users, become the core asset of a Web 2.0 company. For example, Amazon wish lists are aggregated by Amazon and used as buyer's guides.

I am pleased to present a selection of papers of, all of which serve to demonstrate the validity of these principles, in particular that of "harnessing collective intelligence".

We open with Peter Murray's "Web 2.0 and social technologies: what might they offer for the future of health informatics?". Murray, Director and Founding Fellow, Centre for Health Informatics Research and Development (CHIRAD), and Vice President for Working Groups and Special Interest Groups, International Medical Informatics Association (IMIA), United Kingdom, presents an overview of some Web 2.0 tools and technologies and considers how they might be applied to health informatics. He cautions that, while many of these tools have promise for application within health informatics and in health care applications, there is a need for much further exploration, thinking, testing and evaluation.

Continuing in this vein, Iain Doherty, Director, Learning Technology Unit, Faculty Medical and Health Sciences, The University of Auckland, Auckland, New Zealand, presents and explains four Web 2.0 technologies - blogs, wikis, podcasts, and social networks. In "Web 2.0: A Movement Within The Health Community", Doherty considers how these technologies are currently being used by health professionals.

Doherty takes up the principle of harnessing collective intelligence, considering the use of Web 2.0 technologies by health consumers to find and share information and to form support communities. The theme continues as he explores a Web 2.0 pedagogical model that would connect medical and health science students - tomorrow's health care professionals - with today's health professionals and health consumers in order to enhance student education through the provision of collaborative learning opportunities and ready access to multiple sources of information and expertise.

The harnessing collective intelligence theme continues in the papers from Rosemary Stockdale, Senior Lecturer, Information Technology, Institute of Information and Mathematical Sciences, Massey University, Albany, New Zealand and Merrolee Penman, Principal Lecturer School of Occupational Therapy, Otago Polytechnic, Dunedin, New Zealand.

In "The role of sociability in developing online health communities for people with diabetes", Stockdale considers the sociability in online diabetes communities and identifies key factors that contribute to the development of vibrant sociable communities, which, it is indicated, can contribute to educating and encouraging people to maintain a higher degree of self management of their chronic disease.

Penman presents practice notes in "The use of blogging to support professional learning" which uses the example of occupational therapy to consider the use of Web 2.0 tools either as an adjunct to, or replacement for, the traditional learning experiences of conferences, seminars or workshops. One tool, the blog, is discussed in depth, with examples from occupational therapy blogs used to illustrate the value.

In "Gasboys.net, an innovative multiple choice question-based educational website for anaesthesia" Dr Erich Schulz, Anaesthesia Fellow, Mater Health Services, Brisbane, Australia, explores some of the practical, technical, security, privacy, legal and pedagogical issues addressed during the implementation of *gasboys* (http://gasboys.net), an Internet website dedicated to anaesthetic education.

Schulz also critically appraises the site and discusses the problem of evaluating such a novel educational resource.

The gasboys.net application certainly meets the criteria set out by O'Reilly for harnessing collective intelligence: "dynamic, with user participation designed into the system, so that participation itself becomes an integral part of making the underlying database more valuable."

Arguably, it has the potential to embrace O'Reilly's third principle, "Data is the next 'Intel inside' " where data, enhanced through analysis by the gasboys.net provider as well as by contributions from site users, could become an increasingly important asset in itself.

We have the opportunity to look at the use of web-based applications and Open Source Software in health care in "Open Source and Free, Web-based Medical Software" by Chris Paton and Muzaffar Malik. In their examination of the rise of free web applications and Open Source Software in health care, Paton and Malik discuss the recent changes in software application delivery and business models. They look at how healthcare organisations in both developed and developing countries can take advantage of new business models to ensure financial sustainability of healthcare software projects.

Finally, I am pleased to reproduce within this edition the paper "Broad Vision of Health 2.0: Reformulating Data for Transparency, Decision Support, and Revitalized Health Care Markets" by Brian Klepper and Jane Sarasohn-Kahn.

In response to somewhat fragmented definitions for Health 2.0 and its translation into practice, Klepper and Sarasohn-Kahn have attempted to develop an image of how Health 2.0 might develop: what its working parts are, what kinds of information it might receive and generate, who users would be and what impacts might be. The resulting image tries to convey a vision of how innovators might come together to aggregate and reformulate large data sets from disparate sources to create tremendous new utility in the marketplace for patients, clinicians and purchasers of all types.

The image is being posted on various sites and the authors have invited others to post it as an opportunity to invite feedback on, for example: Where is the structure wrong? What is missing? How can the structure be made clearer, stronger, more faithful to best hopes for where health information management might head? Feedback will be used to update the image based on this collective input on the issues involved.

I am also delighted to announce the inclusion of a further paper in the October 2007 edition, HINZ Forum and Exhibition 2007 - Health Informatics: Effecting Change for Better Health Outcomes.

"Hearts and Minds: Information to Manage Metabolic Syndrome in Mental Illness" is presented by David Menkes, Associate Professor of Psychiatry, Waikato Clinical School, University of Auckland, Auckland, New Zealand and Alec Holt, Director, Health Informatics Program and Senior Lecturer in Information Science, University of Otago, Dunedin, New Zealand.

The paper considers a comprehensive informatics strategy that aims to provide clinicians with needed data and decision support to effectively monitor and manage metabolic syndrome among patients requiring treatment with antipsychotic medications.

References

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