Kerstin Denecke, Peter Dolog, Pavel Smrz, Wolfgang Nejdl, Avaré Stewart (eds.)

Using Web Data in the Medical Domain

Proceedings of the
First International Workshop on Web Science and Information Exchange in the Medical Web, MedEx 2010
Raleigh, NC, USA, April 26, 2010

Sponsor:
M-Eco, http://www.meco-project.eu

Preface

The advent of Medicine 2.0 is increasingly making the Web a more accepted source of information for the medical domain and is also exploited for discussing medical problems and treatments. Health organizations monitor online news repositories and web pages for relevant data on epidemiological events. Physicians learn about the experiences of their colleagues provided through social media platforms such as weblogs, or forums. Moreover, patients can not only search for information, but also provide information about their experiences. This workshop is devoted to the technologies for dealing with social- and multi media for medical information gathering and exchange. It provides therefore an extension towards Web Science in general by focusing on one specific application domain, which is medicine. This area is very relevant for current research as well as the research community, government and industry.

Information gathering from medical social- and multimedia poses many challenges given the increasing content on the Web and the trade off of filtering noise at the cost of losing information which is potentially relevant. These issues are compounded by their impact on both information producers and consumers in the health care community.

This workshop is intended to intensify the exchange of ideas between various research communities involved in aspects related to the problem of accessing, exchanging, processing, filtering and making applications that rely upon health related Web information more reliable and adaptable. The submitted contributions published in these proceedings therefore reflect current research in this area: The topics range from content classification for Epidemic Intelligence and recommender systems for medical events to finding connections between texts or persons.

We would like to thank all members of the program committee for supporting us in the reviewing process, the organizers of the main conference WWW 2010 to which this workshop was co-located. We also would like to thank the authors for their willingness to revise their initial submissions based on the reviewers comments. Finally we would like to thank our invited speaker, Prof. Wendy Hall for her willingness to give a talk at our workshop.

April 2010

Kerstin Denecke and Peter Dolog
MedEx 2010 Program Chairs

Organization

Organising Committee

Kerstin Denecke	L3S Research Center, Hannover, Germany
Peter Dolog	Aalborg University, Denmark
Pavel Smrz	Brno University of Technology, Czech Republic
Wolfgang Nejdl	L3S Research Center and Knowledge Based System Department, Leibniz University Hannover, Germany
Avaré Stewart	L3S Research Center, Hannover, Germany

Program Committee

Ralph Grisham	New York University, USA
Clement Jonquet	Stanford University, USA
Richi Nayak	Queensland University of Technology, Australia
Natasha Noy	Stanford University, USA
Nigam Shah	Stanford University, USA
Pavel Smrz	Brno University of Technology, Czech Republic
Jim Warren	University of Auckland, New Zealand

Program Committee

International World Wide Web Conference (WWW)

M-Eco – Personalized Event-based Surveillance

European RTD context M-Eco is an EU-funded project that contributes to the area of Epidemic Intelligence. M-Eco will develop technologies for early detecting potential health threats in informal, textual information.

Short Introduction Many factors in today's changing societies contribute towards the continuous emergence of infectious diseases. Demographic change, globalization, bioterrorism, compounded with the resilient nature of viruses and diseases such as SARS and avian influenza have raised awareness for European society's increasing vulnerability. Traditional Epidemic Intelligence systems are designed to identify potential health threats, and rely upon data transmissions from laboratories or hospitals. They can be used to recognise long-term trends, but are limited in several ways. Threats, such as SARS, can go unrecognised since the signals indicating its existence may originate from sources other than the traditional ones. Second, a critical strategy for circumventing devastating public health events is early detection and early response. Conflictingly, the time with which information propagates through the traditional channels, can undermine time-sensitive strategies. Finally, traditional systems are well suited for recognising indicators for known diseases, but are not well designed for detecting those that are emerging. Faced with these limitations, traditional systems need to be complemented with additional approaches which are better targeted for the early detection of emerging threats. The Medical EcoSystem (M-Eco) project, will address these limitations by using Open Access Media and User Generated Content, as unofficial information sources for Epidemic Intelligence. This type of content has transformed the manner in which information propagates across the globe. Based on this, M-Eco will develop an Event-Based Epidemic Intelligence System which integrates unofficial and traditional sources for the early detection of emerging health threats. M-Eco will emphasize adaptivity and personalized filtering so that relevant signals can be detected for targeting the needs of public health officials who have to synthesize facts, assess risks and react to public health threats.

M-Eco Consortium The coordinator of M-Eco is the L3S Research Center, with the partners Aalborg University, Brno University of Technology, SAIL Labs Technology, Robert Koch Institut, Governmental Institute of Public Health of Lower Saxony, and Joint Research Center. Additional user institutions are participating in the project through the M-Eco Advisory Board, including representatives of the World Health Organiziation (WHO), European Center of Disease Control (ECDC), Health Protection Agency (HPA), Institut de Veille Sanitaire (INVS), and the Mekong Basin Disease Surveillance (MBDS).

Further Information http://meco-project.eu

M-Eco

Coordinator: Dr. Kerstin Denecke
(L3S Research Center, DE)