Health Ambiant Information Systems Workshop
First HamIS Workshop

New scientific and technical improvements impact very deeply health information systems. On one side progress on wireless networks, sensors (for people and their environment) and mobile devices facilitate ambient information systems, on the other, improvement in distributed data management, adaptive interfaces, collaborative tools and methods, semantic models (ontologies) promote better support for personal health records and medical knowledge and more generally data sharing. All these together make Health Ambient Information Systems possible and place them as an important and challenging element for our society. The main reasons are that such systems:
- allow to decrease or restrain health costs by reducing physician acts;
- provide a tool-based collaboration between health professionals;
- make feel citizens secure and more responsible of their own medical environment.

Both, researchers and industrials work hard to face scientific, economic and strategic issues concerning patients, elderly or disabled-friendly. Health ambient information systems is a cross cutting area as it cross, among others, information systems, databases, sensor networks, ubiquitous computing and health related areas. The main objective of this workshop is to gather researchers and industrials of such areas together to elaborate a state-of-the art view on e-health solutions, to foster collaborations among the participants (industrial and research teams) and to trigger discussions on open topics and research challenges.

In its first edition HamIS 2011 workshop has seven accepted papers. In the first paper, Laura Pomponio and co-authors show that prior expert's knowledge about resident activities can be compared with posterior knowledge induced from timed data. The proposed approach is described through the database of the prototypical home of the GerHome project.

Claudia C. Gutiérrez Rodríguez and Michel Riveill explore the principles and issues of data quality in this particular domain providing primary research clues and motivation about this subject. The authors underline the need of the analysis of data quality on e-Health applications, especially concerning remote monitoring and assistance of patients with chronic diseases.

Diego Fernando Roa and co-authors present a process model to guide the data mining projects in the health care sector. The process model (PMH) is a specialization of CRISP-DM methodology and presents different issues associated to the data analysis and management.

The paper of Fabrício Ferracioli and Maria Angélica de Oliveira Carmargo Brunetto shows that usability is an important characteristic in any interactive system, but sometimes is neglected by some software development teams because of the lack of knowledge of these about usability techniques. The objective of this work is to identify a set of usability problems in SacarWeb in a way to prioritize the future improvements in the application through Discount Usability Engineering.

Ana Marilza Pernas, Jonas Bulegon Gassen and José Palazzo M. De Oliveira describe the development of models and techniques to locate, standardize and extract the content in web pages associated with health issues. After that, the objective is to provide an appropriate content to evaluate the quality of a web page according to specific metrics.

The last paper wrote by Fernando Varella, Guilherme Lima, Cirano Iochpe and Valter Roesler present a comparison study made in order to select a reliable method for ECG beat classification running in a mobile phone. Three ECG beat classification methods were selected to be analyzed and implemented in a mobile phone. Tests were made in regions with limited cell phone network coverage in south Brazil.

This volume collects articles presented at the HamIS and includes topics regarding information technological support for healthcare including the monitoring of activities in smart environments, data quality analysis in e-health, process models to guide data mining in the health care sector, usability in healthcare, models and techniques to locate, standardize as well as content extraction in web pages associated with health issues and methods for mobile electrocardiogram. The presented papers contribute for the better understanding of these topics.

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