PMIR: A Personal Medical Information Recommender

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Introduction

Medicine is undergoing a revolution that is transforming the nature of healthcare from reactive to preventive. Major challenges in this revolution are the quality of information that can be found online and the difficulty for a patient to accurately judge the relevance of some information to his own case.

1. Method

The Personal Medical Information Recommender (PMIR), implemented as a module of the IndivoX PHR system, aims to improve the options that patients have to be informed in the internet about their disease and provide to them personalized recommendations.

2. Results and Discussion

The patient is able to use an advanced search engine to retrieve relevant, high quality information. The feedback presented to the patient considers the following databases to make the results of the query as personalized as possible: a) Topics/Terms Database which indexes all web documents that are being searched for relevant information. Those web documents are high quality web resources (web pages, pdfs, docs etc.) selected carefully by the appropriate experts. If no relevant document is retrieved by this database then the results from HONsearch are used instead. b) Patient Preferences Database which contains user preferences and rankings that are acquired as the patient browses the results presented to him. c) Medical Conditions Database which captures the medical conditions that the patient has in his PHR. d) Rules Database which includes rules that are used for filtering and ranking the results of the database and for automatic presenting recommendations to the patients. Those rules are being generated by a Data Mining Service by processing semantically annotated external documents.

To the best of our knowledge no other system providing medical information is able to be dynamically adapted and personalized in such a diverse environment.

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