

MAP-I, PhD Proposal

Electronic Health Records for Mobile Citizens

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Introduction

The dissemination of electronic health records (EHR) among several institutions, where patients are treated along their life, is a major barrier to the setup of a centralized unique patient record. Besides this dispersion, digital medical imaging systems has also been steadily increasing in healthcare centers, representing now one of the most valuable tools supporting medical decision and treatment procedures. However, these systems typically generate enormous volumes of data, creating new challenges in terms of processing, archiving, and communications. In this context, there is a great need for user-oriented and cost-effective solutions that can provide physicians with a single access point to EHR.

Several international initiatives have been dealing with the EHR models (HL7, ISO WG1 EHR, ..). Companies, such as Microsoft and Google in particular, are planning major personal health records initiatives. Along Europe there is also a need for a common platform that allows each practitioner to easily access the clinical information about a patient. This data should be understood by health professionals in any other country, whenever necessary, with respect to the legal and regulatory framework.

Objective

The goal of this project is to:

1. Analyze the major user requirements (practitioners, patients, health centers, insurance companies, regulations) for the deployment of the Unique EHR.
2. Propose an integrated and secure healthcare access model that copes well with the requirements, namely related with patient mobility.
3. Develop a prototype for the proposed model.
4. Assess the overall solution in real case scenarios.