Evolving a Second Opinion Software to Web 2.0

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Introduction

HealthNet is a web based information system designed to support the evaluation of clinical cases, family practice professionals and reduce referrals to the Clinics Hospital (HC), of the Federal University of Pernambuco (UFPE), leading to faster and better care of high complexity level medical cases.

Through the HealthNet, health professionals that are located in health basic assistance units can ask for support, in diagnosing and therapeutic management, to health professionals from Reference Centers.

Introduction

The idea of constructing a Telehealth system occurred in 1999 within the ATM (Asynchronous Transfer Mode) Recife Network Project. From this period until nowadays, some prototypes were developed.

Based on these experiences, a review from literature and meetings with health professionals from primary care, the initial requirements of a health information system to support the Family Health Program (FHP) in the state of Pernambuco were established and implemented.

The first version of HealthNet system was constructed and implanted in Pernambuco Telehealh Network, in Recife city and its metropolitan area, in April 2004.

Introduction

Despite of the good evaluation provided by the users, the usability (easiness, errors and flaws) is the worst issue identified in the current version of the system, and lacks of a better way of using.

Now, it is possible to improve the use of the HealthNet by making advantage of the Web 2.0 concept and its keywords such as: freeing of data, building of virtual applications, user participative, work for the user, modular, sharing, communication and facilitating community, remix, smart.

Methods

HealthNet was constructed with Java language, using Servltes technology and structured in layers. Due to its design, HealthNet can be expanded to support most medical specialties. It uses a database server (MySQL), a Web and application server (Tomcat).

Based on a store-and-forward concept the users can type the information in almost any Web browser and it is supposed to work even with a dial-up connection.

Methods

The pilot health areas considered were internal medicine, pediatrics, cardiology and nursing.

There were trainings at the university hospital with nurses and doctors from this hospital as well as technicians from FHP units that are participating in this project. The technicians are trained in Loco, the doctors and nurses from their localities.

After training process, the system was putted under utilization.

Results

There was observed a low rate of utilization.

Some factors are highlighted as contributions to this low usage:

i) health professionals from primary care are not used to eletronic information systems, this fact can induce resistance to its use. Many of them think information systems can overload their already busy work routine.

ii) The nearness of the basic health units and Reference Centers motivate to a non alteration of the leading processes already established for many years.

iii) Fragility of telecommunication infrastructure between FHP units and specialized center. Besides, as part of the evaluation process of the system, there were pointed some functionalities and technological limitation.

Discussion and Conclusion

Because of the problems found, planning to overcome the difficulties is to be adopted in a second version. About technological and functionality points, new requirements were identified and the system was redesigned.

For the Web 2.0 interface it is intended to permit the development of a wide health cooperation network bringing notorious resources found in communication's software such as Windows Live Messenger.

Discussion and Conclusion

Below are listed some highlights: synchronous (on-line) and asynchronous (off-line) communication; multimedia communication (text, sound and image) allowing users wish association; handling free use of its desktop, dragging components/services; modular components/services allowing future evolutions without program code need.

The second version of Healthnet is already under development.

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