ABSTRACT

Telehealth is a promising technology for improving the quality of care of seniors while using healthcare resources more effectively. Major obstacles to a more widespread use are the high initial costs and a vendor specific design, which makes it difficult and expensive to add new functionalities. Many existing systems are designed to manage diseases rather than prevent them and do not address the social and psychological needs of the patient. The increasing numbers of seniors going online to look for health related information indicates that Internet is the right medium to deliver health-related services to patients. We present Healthcare4Life, a novel patient-centric, web-based telehealth system developed using Web 2.0 technologies which allow integration of third party health applications and provides social support to its users.

Categories and Subject Descriptors
H.1.2 [User/Machine Systems]: Human factors; H.5.2 [User Interfaces]: User -centered design; J.3 [Life and Medical Sciences]: Health

Keywords
Telehealth, human computer interfaces, seniors.

HEALTHCARE4LIFE

Healthcare4Life is a functional prototype that demonstrates an extendable ubiquitous patient-centric system which combines the power of social networking with telehealth systems in empowering patients, especially seniors, to manage their health independently from home. The aim is to overcome the limitations of traditional telehealth systems, and envisions making telehealth more widely available, affordable and scalable. The system is being developed using Google's OpenSocial technology and Drupal CMS.

Healthcare4Life encourages positive lifestyle changes by letting seniors manage their own healthcare goals. Patients are able to locate other patients suffering from the similar disease – enabling them to share experiences, motivate each other, and engage in health-related activities (e.g. exercise) via the health applications available in the system. The applications can be rated by the users thereby allowing the developers to get feedback.

Similar to Facebook, the system has an open architecture that enables third-party providers to add new content and functionalities. It envisages hosting a variety of health-related applications which will be useful for health monitoring, education, rehabilitation and social support. Developers can design and deploy applications for these categories by using the OpenSocial standard in the form of serious games, interactive web pages and expert systems.

Currently, we have developed and hosted several health monitoring applications, including a weight, vitals and exercise tracker that records the data entered by the patients and gives visual feedback in terms of graphs and/or bar charts. We have also developed a social memory game that allows users to test their memory by finding matching pairs of cards. They can either challenge someone or play the game collaboratively. As a motivation and feedback, all applications contribute to a general weekly score, which is presented to the user as an overall performance percentage for the week to date.

This work is also published here:
