DEVELOPMENT OF HEALTH CARE SYSTEM FOR SMART HOSPITAL BASED ON UML AND XML

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ABSTRACT

The convergence of information technology systems in health care system building is causing us to look at more effective integration of technologies. Facing increased competition, tighter spaces, staff retention and reduced reimbursement, today's traditional hospitals are looking at strategic ways to use technology to manage their systems called smart hospital. The concept of the smart hospital is a useful system for any hospital; about adding intelligence to the traditional hospital system by covering all resources and locations with patient information. Patient's information is an important component of the patient privacy in any health care system that is based on the overall quality of each patient in the health care system. The main commitment for any health care system is to improve the quality of the patient and privacy of patient's information. Today, there is a need of such computer environment where treatment to patients can be given on the basis of his/her previous medical history at the time of emergency at any time, on any place and anywhere. Pervasive and ubiquitous environment and UML (Unified Modeling Language) can bring the boon in this field. For this it's needed to develop the ubiquitous health care computing environment using the UML with traditional hospital environment. This paper is based on the ubiquitous and pervasive computing environment based on UML and XML (The Extensible Markup Language) technology, in which these problems has been tried to improve traditional hospital system into smart hospital in the near future. The key solution of the smart hospital is online identification of all patients, doctors, nurses, staff, medical equipments, medications, blood bags, surgical tools, blankets, sheets, hospital rooms, etc. In this paper efforts is channeled into improving the knowledge-base ontological description for smart hospital system by using UML and XML technology, Our knowledge is represented in XML format from UML modeling (class diagram). Our smart hospital provides access to its system by using a smart card. Finally, the former try to improve health care delivery through development and management of acute care hospital designed; both physically and operationally, for more efficiency and increased patients safety.

KEYWORDS: UML, Smart Hospital (SH), Ontology, XML, Health Care System