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DOCTOR'S PORTAL WEB CONTENT MANAGEMENT SYSTEM

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ABSTRACT- A web content management system (WCMS)is a software system that provides website authoring, collaboration, and administration tool designed to allow users with little knowledge of web programming languages to create and manage website content with relative ease. A robust web content management system provides the foundation for collaboration, offering users the ability to manage documents and outputs for multiple authors editing and participation. Most system use a content repository data base to store a page content, metadata, and other information assets that might be needed by the system. A presentation layer(template engine)displays the content to website visitors based on the set of templates, which are sometimes XSLT files. A WCMS allows non-technical users to make changes to a website with little training. It is primarily a website maintenance tool for non-technical staff.

INTRODUCTION:

ELECTRONIC Health Record (EHR) is longitudinal collection of electronic health information for and about persons, where health information is defined as information pertaining to the health of an individual or health care provided to an individual and it can support of efficient processes for health care delivery [1]. In order to ensure successful an operation of EHR, a Health Information Exchange (HIE) system need to be implemented [2]. However, most of the HIS in service have different characteristics and are mutually incompatible [3], [4]. Hence, effective health information exchange needs to be standardized for interoperable health information exchange between hospitals. Especially, clinical document standardization lies at the core of guaranteeing interoperability. Health Level Seven has established CDA as a major

standard for clinical documents [5]. CDA is a document markup standard that specifies the structure and semantics of 'clinical documents' for the purpose of exchange. The first version of CDA was developed in 2001 and Release 2 came out in 2005 [6].

Many projects adopting CDA have been successfully completed in many countries [7], [8], [9]. Active works are being done on improving semantic interoperability based on openEHR and CEN13606 [10], [11].

The CDA Document

The CDA Document The HL7 Clinical Document Architecture Release 2 (CDA R2) was approved by American Nation Standards Institute in May 2005. It is an XML-based document markup standard that specifies the structure and semantics of clinical documents, and its primary purpose is facilitating clinical document exchanges between heterogeneous software systems. A CDA document is divided into its header and body. The header has a clearly defined structure and it includes information about the patient, hospital, physician, etc. The body is more flexible than the header and contains various clinical data. Each piece of clinical data is allocated a section and given a code as defined in the Logical Observation Identifiers Names and Codes (LOINC) [15]. Different subcategories are inserted in a CDA document depending on the purpose of the document, and we chose the Continuity of Care Document (CCD) [16] because it

contains the health summary data for the patient and it is also widely used for interoperability

Cloud Computing

Cloud computing refers to both the applications delivered as services over the Internet and the hardware and systems software in the data centers that provide those services [19]. The user pays fee depending on the amount of resources allocated, such as network, server, storage, applications and services. Currently, three major types of cloud computing service exist Software as a Service (SasS): This service model provides software. 2) Platform as a Service (PaaS): Cloud providers supply a computing platform to its clients where they can deploy applications of its own, program language of its own. 3) Infrastructure as a Service (IaaS): Vendor integrates basic infrastructure such as IT systems and database and then rents them to client. In this paper, we chose a widely used cloud service, Amazon Cloud [20], and provide the CDA generation and integration system as SaaS.

DISCUSSION AND CONCLUSION

Interoperability between hospitals not only helps improve patient safety and quality of care but also reduce time and resources spent on data format conversion [23]. Interoperability is treated more important as

the number of hospitals participating in HIE increases. If one hospital does not support interoperability, the other hospitals are

required to convert the data format of their clinical information to exchange data for HIE. When the number of hospitals that do not support interoperability, complexity for HIE inevitably increases in proportion. Unfortunately, hospitals are reluctant to adopt EHR systems that support interoperability, because changing an existing system adds cost for software and maintenance [24], [25]. The advantages of an API service as ours are at the amount of resources that hospitals need to allocate for interoperability is minimal [26]. Therefore, offering a system that supports interoperability with cloud computing is a good alternative for hospitals that have not yet adopted EHR because of cost issues. The CDA document format a clinical information standard designed to guarantee interoperability between hospitals, a large number of HIE projects that use the CDA document format have been undertaken in many countries. Table 5 shows various HIE projects and whether they generate CDA documents or integrate multiple CDA documents. Our cloud computing based CDA generation and integration system has a few pronounced advantages over other existing projects. First, hospitals do not have to purchase propriety software to generate and integrate CDA documents and bear the cost as before

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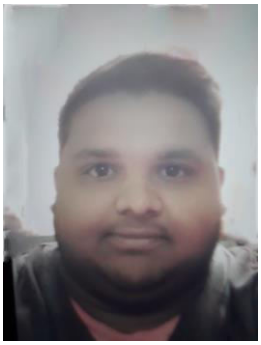

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