International Journal of Science Engineering and Advance Technology, IJSEAT, Vol. 5, Issue 7 | ISSN 2321-6905 JULY -2017

International Journal of Science Engineering and Advance Technology

Open API Service To Generate CDA Documents Based On Cloud Computing

[1]A.Anuradha, [2]K.Issack Babu
[1]H.O.D ,Dept. of M.C.A, Dr. C.S.N Degree&P.G College, Industrial Estate, Bhimavaram, W.G.DT,AP, India
[2]Student ,Dept. of M.C.A, Dr. C.S.N Degree&P.G College, Industrial Estate, Bhimavaram, W.G.DT,AP, India

ABSTRACT:
We depict our CDA report era and coordination Open API benefit in light of distributed computing, through which doctor's facilities are empowered to helpfully create CDA records without purchasing exclusive programming. Our CDA archive joining framework coordinates various CDA records per tolerant into a solitary CDA report and doctors and patients can peruse the clinical information in sequential request. Our arrangement of CDA record era and mix depends on distributed computing and the administration is offered in Open API.

KEYWORDS: Health information exchange, HL7, CDA, cloud computing, software as a service.

I. INTRODUCTION:

Health Level Seven has built up CDA as a noteworthy standard for clinical archives. CDA is a report markup standard that determines the structure and semantics of 'clinical records' with the end goal of trade. The main adaptation of CDA was created in 2001 and Release 2 turned out in 2005. Many tasks receiving CDA have been effectively finished in numerous nations. Dynamic works are being done on enhancing semantic interoperability in light of openEHR and CEN13606. To set up trust in HIE interoperability, more HIS's have to bolster CDA. Be that as it may, the structure of CDA is extremely mind boggling and the generation of right CDA report is difficult to accomplish without profound comprehension of the CDA standard and adequate involvement with it. Furthermore, the HIS improvement stages for healing centres shift so enormously that era of CDA records in every clinic constantly requires a different CDA era framework. Additionally, healing facilities are exceptionally hesitant to embrace another framework unless it is completely important for arrangement of care. Therefore, the appropriation rate of EHR is low with the exception of in a couple of modest bunch nations, for example, New Zealand or Australia. In the USA, the administration executed a motivating force program called the Meaningful Use Program to advance EHR selection among hospitals.

LITERATURE SURVEY:

[1],Therapeutic data frameworks today store clinical data about patients in a wide range of exclusive arrangements. To address the subsequent interoperability issues, a few Electronic Healthcare Record benchmarks that structure the clinical substance with the end goal of trade are presently being worked on. In this article, we show a study of the most applicable Electronic Healthcare Record models, look at the level of interoperability they give, and survey their usefulness regarding content structure, get to administrations, media support, and security.

[2],we propose a strategy for the trade and sharing of clinical reports in a disconnected model in view of the CDA-the Portable CDA. This enables the doctor to recover the patient's therapeutic record put away in a gateway gadget, however not through the Internet progressively. The security and protection of CDA information will likewise be considered.

PROBLEM DEFINITION

Viable health data trade should be institutionalized for interoperable health data trade between clinics. Particularly, clinical record institutionalization lies at the centre of ensuring interoperability.

It requires expanding measure of investment for the restorative work force as the measure of traded CDA record increments since more archives implies that information are dispersed in various reports. This fundamentally postpones the therapeutic work force in deciding. Subsequently, when the greater part of the CDA archives are coordinated into a solitary record, the restorative faculty is engaged to audit the patient's clinical history helpfully in sequential request per clinical segment and the subsequent care administration can be conveyed all the more viably. Sadly until further notice, an answer that coordinates various CDA reports into one doesn't exist yet to the best of our insight and there is a functional constraint for individual doctor's facilities to create and execute a CDA archive joining innovation.

PROPOSED APPROACH

In this we exhibit (1) a CDA archive era framework that produces CDA reports on various creating stages and (2) a CDA record joining framework that coordinates numerous CDA reports scattered in various healing centres for every patient.

CDA Generation API creates CDA archives on cloud.

CDA Generation Interface utilizes the API given by the cloud and transfers the information and gets

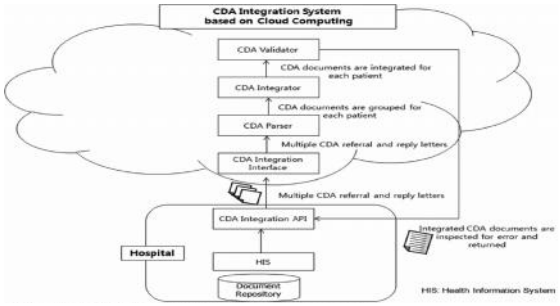
CDA records produced in the cloud.

Layout Manager is in charge of dealing with the CDA records produced in the cloud server. Our framework utilizes CCD record formats.

CDA Generator gathers persistent information from doctor's facilities and creates CDA reports in the layout designs as proposed by the Template Manager.

CDA Validator investigates whether the produced CDA record conforms to the CDA composition standard.

SYSTEM ARCHITECTURE:



PROPOSED METHODOLOGY:

HEALTHCARE SERVICE PROVIDER

Provider has to register to cloud and View all the CDA received and request to the cloud to access the generated CDA from hospital - A & hospital - B. once the access request is granted by the cloud the provider will write the reply letter for corresponding CDA reports and sends.

PATIENT/END USER

The user/patient Registers to cloud and is authorized by the cloud and Logs in. the user/ patient has to request the search key to search the patient CDA. And also request for the view permission from the cloud. If the permission is provided by the cloud the corresponding user/patient can view the CDA generated and the corresponding reply from the doctor.

HOSPITAL - A

CDA is generated, encrypted as hospital-A document and then uploaded to cloud. And also can view the CDA replies from Healthcare service provider. And can view all the generated CDA's.

HOSPITAL - B

In this module, CDA is generated, encrypted as hospital-B document and then uploaded to cloud. And also can view the CDA replies from Healthcare service provider. And can view all the generated CDA's.

CLOUD SERVER

The cloud will authorize both the doctor and the patient/user .Receive all CDA generated from the hospitals and store, Select the doctor and Sends the CDA report for corresponding doctor. Provide permission for the CDA requests requested by the provider and also generates the search key requested by the user. This module shows the charts/Results based on the CDA allergies.

ALGORITHM:

INPUT: patients, clinic, hospitals data

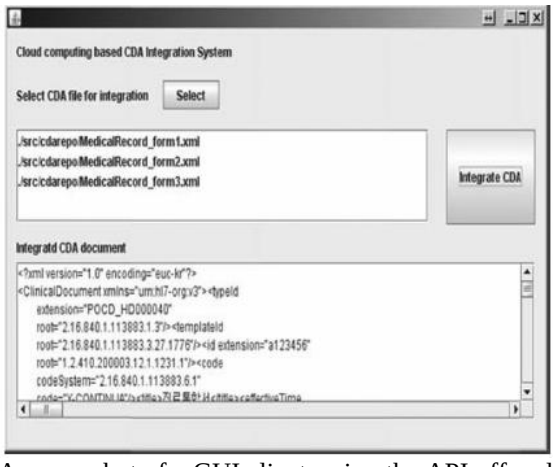
STEP1: gathering patient's data from different hospitals.

STEP2: invoke CDA generation api.

STEP3:Template Manager is responsible for managing the CDA documents generated in the cloud server. It uses CCD document templates.

STEP4: CDA Generator collects patient data from hospitals and generates CDA documents in the template formats as suggested by the Template Manager.

RESULTS:



A screenshot of a GUI client, using the API offered by our cloud service to integrate multiple CDA documents.

CONCLUSION:

The approach proposed in this is being tried for CCD some portion of CCDA and Korean Standard

for CDA Referral and Reply. Normally, when another kind of CDA report configuration is set up, clinics need to overhaul or buy restrictive programming to suit documents in that new organization. With our API be that as it may, there is no compelling reason to change the product on the customer end; just the product at the server-end should be adjusted to embrace the new CDA archive design.

REFERENCES:

1. Y. Kwak "International standards for building electronic health record (ehr)" Proc. Enterprise Netw. Comput. Healthcare Ind. pp. 18-23 Jun. 2005.

2. M. Eichelberg T. Aden J. Riesmeier A. DogacLaleci "A survey and analysis of electronic healthcare record standards" ACM Comput. Surv. vol. 37 no. 4 pp. 277-315 2005.

3. T. Benson Principles of Health Interoperability HL7 and SNOMED 2009 Spinger.

4. J. Lähteenmäki J. Leppänen H. Kaijanranta "Interoperability of personal health records" Proc. IEEE 31st Annu. Int. Conf. Eng. Med. Biol. Soc. pp. 1726-1729 2009.

5. R. H. Dolin L. Alschuler C. Beebe "The HL7 Clinical Document Architecture" J. Am. Med. Inform. Assoc. vol. 8 pp. 552-569 2001.

6. R. H. Dolin L. Alschuler S. Boyer "The HL7 Clinical Document Architecture" J. Am. Med. Inform. Assoc. vol. 13 no. 1 pp. 30-39 2006.

7. M. L. Müller F. Ückert T. Bürkle "Cross-institutional data exchange using the clinical document architecture (CDA)" Int. J. Med. Inform. vol. 74 pp. 245-256 2005.

8. H. Yong G. Jinqiu Y. Ohta "A prototype model using clinical document architecture (cda) with a japanese local standard: designing and implementing a referral letter system" Acta Med Okayama vol. 62 pp. 15-20 2008.

9. K. Huang S. Hsieh Y. Chang "Application of portable cda for secure clinical-document exchange" J. Med. Syst. vol. 34 no. 4 pp. 531-539 2010.

10. C. Martínez-Costa M. Menárguez-Tortosa J. TomásFernández-Breis "An approach for the semantic interoperability of ISO EN 13606 and OpenEHR archetypes" J. Biomed. Inform. vol. 43 no. 5 pp. 736-746 Oct. 2010.

11. MR. Santos MP. Bax D. Kalra "Building a logical EHR architecture based on ISO 13606 standard and semantic web technologies" Studies Health Technol. Informat. vol. 160 pp. 161-165 2010.

12. K. Ashish D. Doolan D. Grandt T. Scott D. W. Bates "The use of health information technology in seven nations" Int. J. Med. Informat. vol. 77 no. 12 pp. 848-854 2008.

13. G. J. Kuperman J. S. Blair R. A. Franck S. Devaraj A. F. Low "Developing data content specifications for the nationwide health information network trial implementations" J. Am. Med. Inform. Assoc. vol. 17 no. 1 pp. 6-12 2010.

AUTHOR BIOGRAPHIES

Smt. A. ANURADHA, **MCA, M.Phil, M.tech, (PHD)** well known Author and excellent teacher Received M.C.A from Sri Venkateswara University, Nellore., M.Phil form Alagappa University, M.Tech(IT) form Andhra University and PHD from Nagarjuna University. Presently she is working as Asst. Professor & HOD in the department M.C.A, Dr. C.S.N Degree & P.G College – Bhimavaram. She has 13 years of teaching experience in various P.G colleges. To her credit couple of publications both national and international Conferences /Journals. Her area of Interest includes Data Warehouse, Data Mining, Neural Networks, flavors of Unix Operating systems and other advances in computer Applications.

Mr. K.ISSACK BABU is a student of Dr.C.S.N Degree& P.G College, Industrial Estate, Bhimavaram. Presently he is pursuing his M.C.A [Master of Computer Applications] from this college. His area of interest includes Computer Networks, JAVA and Object oriented Programming languages, DOT NET all current trends and techniques in Computer Science.