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Implementing Integrated Web-data Service to Promote Telemedicine Database Management System

Telugu Venkatesh
M. Tech, Dept. of CSE,
JNTUA, AP, India

Dr. S.Vasundra
Professor, Dept. of CSE,
JNTUA, AP, India

Abstract*— At present computer technology has become more popular in our daily life, at the same time the health care conditions of the patients were affected by new kind of diseases in our day to day life. To merge computer technology with some health care systems and to avoid and overcome the diseases we are proposing a system named web based system which uses mobile based application. The web based system consists of all the details about the patients and it also stores information regarding the patients. Hence it can maintain data base information of the patient who is irrelevant or diseased. We are implementing Web Based Telemedicine System which consists of the information regarding healthcare data and at the same time it will maintain healthcare data of the patients accurately. The existing system is integrated by three new techniques namely fragmentation clustering, sites clustering and fragmentation of database. In execution time we minimize the data which is migrated in between the websites in order to improve the response time and throughput of the application. And by applying these three integrated techniques Cost effectiveness will be reduced while communication takes place within the application processing time.

Keywords: WTDS, Health care database, Fragmentation, Clustering

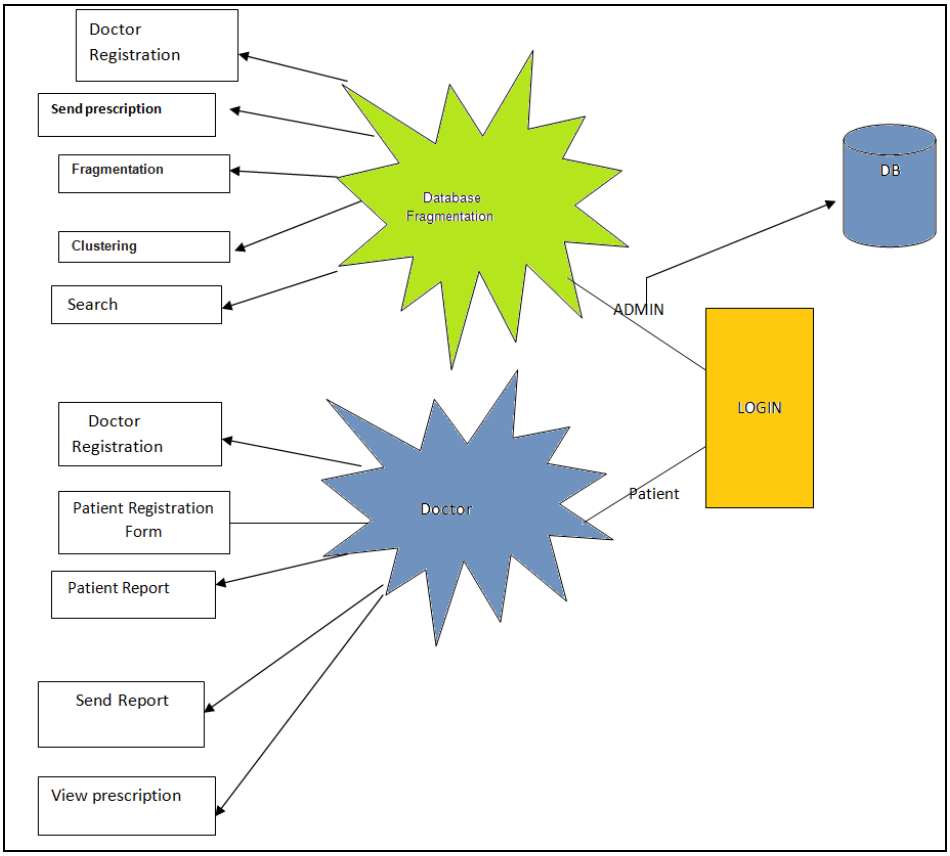
I. INTRODUCTION

Now a day's a there is a lot of growth seen in database technology. We are merging the Existing suitable technologies which are suitable and feasible with the HealthCare System, which will be really helpful for the people in order to overcome the real-time problems. Due to this Healthcare Technology Improvements, the world's fate has been changed. In these days lot of conflict works were resolved by using Healthcare Systems. We are improving this existing technology into Bio-Informatics. A lot of innovations have to be done in the Health care areas in order to improvise the Health care systems. The Health Care Industry Telemedicine System plays a crucial role which will be used to improvise Health Care Industry. By using this Health Care system we are able to improvise the Health Care Industry which introduces new innovations.

In the present days, a lot of technical innovations have to be done in the Hospitalized areas. WTDS (Web Telemedicine Database System) is used to access the patient data by without having any interaction with the patient. Now a day's WTDS have became new innovation in the Hospitalized Health Care Sectors, by using this system we are able to access the information about the patient's data automatically. So WTDS system maintains the patient's database, so that this data will be accessible by all the Hospitalized sectors. This will be helpful to the doctors and patients and the time complexity for prescribing the medicines will be reduced. Web Medicinal Database Management System will store the relevant data of the prescribed medicines which are suitable to the patient's diseases, as per the database records stored in the Web Telemedicine Database System.

II. PROPOSED SYSTEM

The main aim of this paper is to integrate the three enhanced computing services techniques like Data fragmentation of database, clustering of slides and fragmentation Clustering . By applying these three techniques we are going to improvise the Cost Effectiveness and reduce time complexity and throughput of the database .This project main aim is to improvise the medical services to the patients. In this project we developed a web based system in which the doctors are registered as admin and will include the patients details such as prescriptions, patient's reports etc. If the patient needs any special assistance by the doctors, then he can receive the information regarding his Health condition in online by using this Web Telemedicine Database Systems. Also the doctor can send the patients database to the other Hospitalized institutions, which helps the patient and other doctors to treat that patient effectively. The Data Base System maintains all the information about the Patient's data in the form of Records, to perform clustering all the data of the Patient will be gathered and then fragmentation of the data will be done. To apply Data Fragmentation Service Technique by dividing the Tele Medicinal Data Bases into several small disjoint fragments. It generates minimum number of disjoint Fragments which will be allocated to the Web Services in the Data Distribution Phase. In this system we introduce a High Speed Clustering Service Technique which groups the Data Base System Sites into Sets or Clusters which helps in avoiding Allocating Redundant Data. The architecture of the proposed work is as follows



III. MODULE

3.1 System Architecture of communication System Model:

In this Model, Tele Medicinal approach is developed to support the Web Data Base with Calculated Services which can be implemented over Multiple Services where the storage of data in the Data Base, Communication and the Process of Transformation of data has to be controlled. To meet the Patient's Privacy and Security we Propose Web Tele Medicine Network System with different bandwidths. Some servers are used to execute the queries triggered from different Web Data Base Sites. Some servers may run the Data Base Programs and perform the Fragmentation Clustering Allocation Computing Services, while the other services were used to store the Data Base Fragments.

3.2 Fragmentation and Clustering:

The Queries are triggered in Tele Medicine from the Web Servers as the transactions which were extracted from the Data Bases. To control the Data Fragmentation Process and to get the consistency of the Data in the Tele Medicine Data Base System, IFCA Fragmentation service Technique will Partition each Data Base Record according to Inclusion-Integration-Disjoint Assumptions where generated Fragments must contain all the Data Base Relations of a Records. The relation should be able to be formed from its Fragments. These Fragments are neither repeated nor intersected. The communication cost range specifies the time space which is allowed by the website in order to send and receive Data from the same Cluster, in these Data will be maintained by the Data Base Administrator.

IV. ALGORITHM

To control the Input and output computations for generating clusters and to ascertaining the set of sites in each are with other are computed as follows

(i) The cost of Communication in between the sites SS (Gi, Gj) =Cost of data creation + Cost of data Transmission in between Gi, Gj.

(ii) The cost of Communication will be ranged from SSR (MS/Byte), hence it is determined by the administrator Tele Medicinal Data Base.

(iii) The Value of the Clustering decision (Sdv):

$$Sdv(Gi,Gj)=\begin{cases}1: IC\ SS(Gi,Gj) <= SSR\ \hat{}\ i! = j \\ 0: IC\ SS(Gi,Gj) > SSR\ v\ i=j\end{cases}$$

4.1 Fragmentation:

Data fragmentation will be done by based on the data records which were generated by accomplishing the SQL Queries from the database relations. The fragmentation service will generate disjoint fragments which will represent minimum number of records. These disjoint Fragments which were generated by the fragmentation will perform the Fragmentation task.

4.1.1 overlapped and redundant data records fragmentation algorithm:

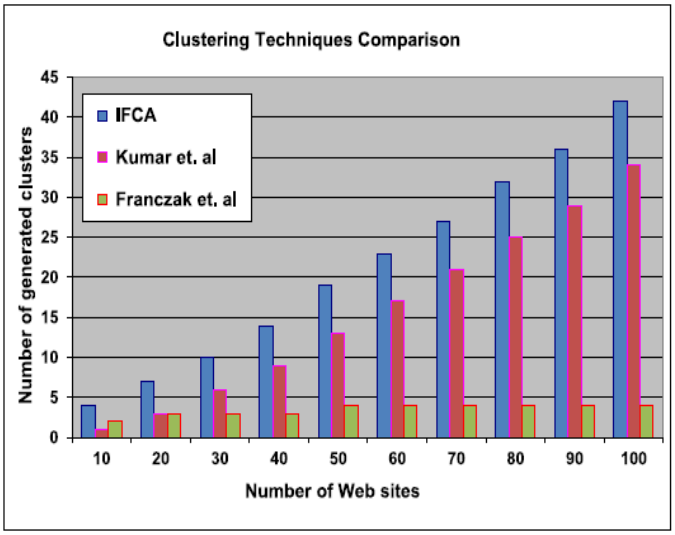
step1:set 1 to M;O = P.size()
step2:Do steps (3-18) until M>P.size()
step3:set1 to N
step4:Do steps (5-16) until N>P.size()
step5:M≠N and Pm,Pn for all P goto (6)
Else,Add 1 to n and goto step(15)
step6:if Pm∩Pn≠Ø do steps (7-14)
Else,Add 1 to N and goto step(14)
step7:Add 1 to K
step8:Create New Fragment
Po=Pi∩Pj and add it to P
step9:Create new Fragment
Po+1=Pm-Po and add it to P
step10:Create new Fragment
Po+2=Pn-Po and add it to P
step11:Delete Pm
step12:delete Pn
step13:set P+1 to N
step14:End If;step15:End IF
step16:Loop
step17:Add 1 to S
step20:Loop

4.1.2 Non-overlapped Data Records Fragmentation Algorithm:

step21:set 1 to M;O=P.size()
step22:Do steps(23-24) until M>P.size()
step23 Set 1 to N
step24:Do Steps(25-32) until N>P.size()
step25:if M≠N and Pm,Pn for all P go to(26)
Else Add 1 to N,go tostep(32)
step26:if Pm∩Pn=Ø do steps(27-32)
step27:Add 1 to O
step28:create new fragment Po=Sn-∪P
step29:End IF
step30:if Po≠Ø Add Po to P
step31:EndIf
step32:Loop
step33:Add 1 to M
step34:Loop

V. EXPERIMENTAL RESULTS

The Web Tele Medicine Database System will gather the more data base of the Patients and this gathered database will be distributed to all the hospitalized institutions. By updating the gathered database of the patients in the cloud which will helps in retrieving the database quickly by the Hospitalized Institutions. This results in reduction of the time complexity and throughput than the existing approaches.



VI. CONCLUSION AND FUTURE WORK

In this Project we propose an approach to improve Web Tele Medicine Data base System Performance. Our project integrates three enhanced computing service techniques like Data Base Fragmentation, Clustering of sites and allocation of Fragments as the future work. We improve these following approaches into large number of sites over the cloud. By applying this it will be easier to connect with the medicinal services and at far away locations by the Doctors and Patients.

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AUTHOR'S PROFILE

T.VENKATESH, received B.Tech degree in Information Technology From Rajeev Gandhi Memorial College Of Engineering And Technology, Nandyal, A.P, India, during 2008 to 2012.Currently pursuing M.Tech in Computer Science(Computer Science) from JNTUA College of Engineering, Anantapuramu, A.P, India, during 2014 to 2016.His area of interests is Integrated Web Data Services.

Dr. S. VASUNDRA, presently working as a Professor and Head of the Department CSE, JNTUACEA. She completed her Ph.D from JNTUA University Anantapuramu, M.Tech from JNTUA and B.E from VTU. She is having 17 years of teaching experience and 5 years of research experience. Published 36 papers in various international journals and 21 National and international conferences. Her area of interest includes MANETS, Cloud Computing, Algorithms, Data Structures and Distributed Computing.

