Android to PC Chatting & Sharing Application

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ABSTRACT: A very simple cross platform client server chat application has been implemented in Angular JS. Its design is described, limitations are discussed, improvements are proposed and a user manual is included.Implementing a chat server application provides a good opportunity for a beginner to design and implement a network based system.The design is very simple. It is implemented in Java, since is easy to program in, it precludes the need to deal with low level memory management and includes powerful libraries for sockets and threads.

KEYWORDS: TCP-Transmission control protocol, GUI-Graphical user interface, PCIs-Personal Computer.

I. INTRODUCTION

Lot of communication between members in a software project produce some point to note all around (such as emails or protocols from meetings) that make it possible to retrieve information later on e.g. what was agreed. Other communication channels leave no trace (e.g. informal meetings, telephone conversations, and chat sessions over the Internet). If something is agreed upon in when communicating through such channels, this information will be lost and can give rise to conflicts later. The task of this project is therefore to store relevant chat sessions in a way so that this information can be easily retrieved later. Here system would provide chatting connection between PCs to Different Hand-held system like android phone or windows phone. Never seen before our project.

II. RELATED WORK

Here we are going to implement a chat server application which is one of the most popular network programming projects with lots of new concept and freebie technologies. As we have seen earlier there are bundle of chat application and software are available but we have conceded something new in our project by using TCP network layer and some google freebie concept. Also we see some application are free where but someone have to pay for it this is not big problem but our project is totally open source application software nothing else.There is some examples like v-chat and many more which is totally open software for use but there is some like skype which require something credit system for use and many more. But here we use our new course of programming which are having more enhanced technology in the field of GUI. We are having some experience in the field of networking while we our project which is totally based on concept of networking and here we implementations our concepts but to implement a basic version of this is totally on my own.

While we used TCP as the transport layer protocol, since it provides reliable delivery which is critical for the given application. As we seen in various chat application TCP, does not provides security while connecting through network and does notguarantees their work forces, which is not very important in the given scenario. Hence our chatting application is capable to do chatting between PCs and different hand-held system.

III. PROPOSED SYSTEM& IT'S ADVANTAGES

We propose a hierarchical attribute-set-based cloud based chat app in cloud computing. Chat app extends the firebase storage, database, notification, and analytics with cloud. Scheme with a hierarchical structure of system users, so as to achieve scalable, flexible and fine-grained access control with smooth access.

- Advantages:-
  i. Low initial capital investment
  ii. Shorter start-up time for new services
  iii. Lower maintenance and operation costs
  iv. Higher utilization through Cloud storage

V. GOALS AND OBJECTIVES

- Goals

The projects research into the use of CHAT for online learning aimed to provide initial answers to questions such as:
  i. To what extent do students, who have used CHAT as part of their online learning process, feel it is effective?
  ii. Do students on online courses feel their participation would be enhanced by the use of live, inter-active learning amongst themselves, other students and the tutor?
  iii. Do students at a traditional campus based university feel that CHAT can be used to provide them with meaningful support for their studies?
  iv. How can CHAT be used in online courses to support teaching in relation to lectures, discussions, question and answer sessions or short individual exercises, enabling a tutor to monitor learning with immediate feedback?

- Objective

The project report analyses the students responses to their online learningexperiences. It also presents methodologies and technical information connected with the use of CHAT drawn from one of the proposers CHAT basedcourses and other online CHAT sources.Specification aims were:
  i. to gather information on approaches currently taken on the use of CHAT in online learning in higher education.
  ii. to promote the use of CHAT in teaching and learning carried out online;
  iii. to highlight examples of good practice in relation to the use of CHAT
  iv. to enable and support learning amongst online students;
  v. to develop a short, online, CHAT based support training course in the use of CHAT and to pilot and evaluate its use before wider dissemination
  vi. to the academic community.

V. EXISTING SYSTEM & IT'S DISADVANTAGES

Our existing solution applies some algorithm by disclosing data decryption keys only to authorize users.These solutions inevitably introduce a heavy computation overhead on the data owner for key distribution and data management when fine grained data access control is desired.

- Disadvantages:-
  i. **Software update/patches**- could change security settings, assigning privilegestoo low, or even more alarmingly too high allowing access to your data by other parties.
  ii. **Security concerns**- Experts claim that their clouds are 100% secure - but it willnot be their head on the block when things go awry. It's often stated that cloudcomputing security is better than most enterprises. Also, how do you decidewhich data to handle in the cloud

VI. ARCHITECTURE

After the great success of WhatsApp, it has been a craze to create more sophisticated chat application in the entire world. Here we will see the clear sign of using RTC (real-time-communication) in application which will rule the tech world in coming days. There are too many application like v-chat is there in the market which press the button of most alarming concern over the year.Here is technical detail of what we did to create most efficient real time chat application.
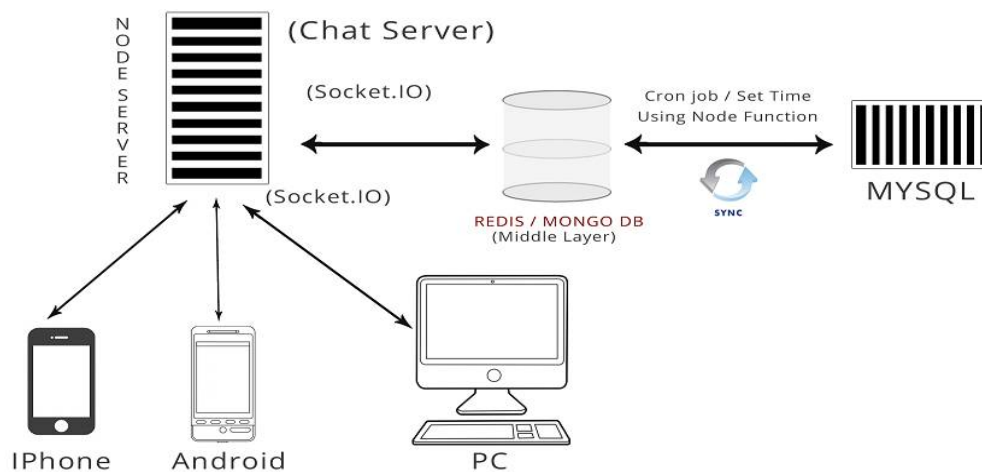
- Figure shown below:-

Fig…Chat System Architecture Diagram

- Platform:- The chat server is using node js. That is platform independent. User can chat from Windows, IOS, and Linux etc. Also it is device independent ex. IPhone, Android etc.
    i. socket.io
    ii. Node -MySQL
    iii. Node–js

- Features: - Primary goal is to connecting people in a real-time network using TCP/IP socket feature. As node is non-blocking server, it give advantages to real-time push feature.

1. One to One communication:
    i. Allows people to communicate with friend/friends in real-time.
    ii. Handles people connect(online), disconnect(offline) event.
    iii. Handles people message typing event. Its real time like Skype/WhatsApp.
    iv. Shows chat history.
    v. Sends out push notification on your Desktop.

2. Group Communication/Group Chat :
    i. Allows people to create chat room/chat group.
    ii. Sends out push notification in mobile to group members.
    iii. Saves room history.

3. Basic Setup :
    i. Setup the node environment.
    ii. Write a script for run the server in node environment

   iii.   Write a script for client which is responsible for interacting with server and client.

4. Process Flow :
   i.   Node server/Chat server is central server responsible for the complete chat system.
   ii.   Socket.io is using TCP/IP socket to transport the messages.
   iii.   Each client/Device containing a socket.io client, which responsible for maintain communication with central server.
   iv.   Using MySQL to store the chat data.
   v.   To reduce I/O and Network Roundtrip over MySQL we using a Middle layer between MySQL and Node Server.
   vi.   A Node Function will auto sync The Middle layer data with MySQL in a specific time interval.
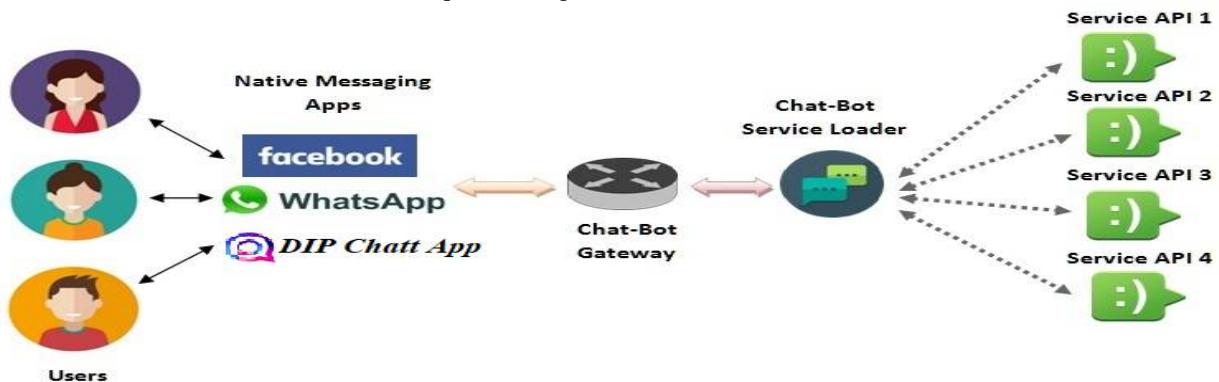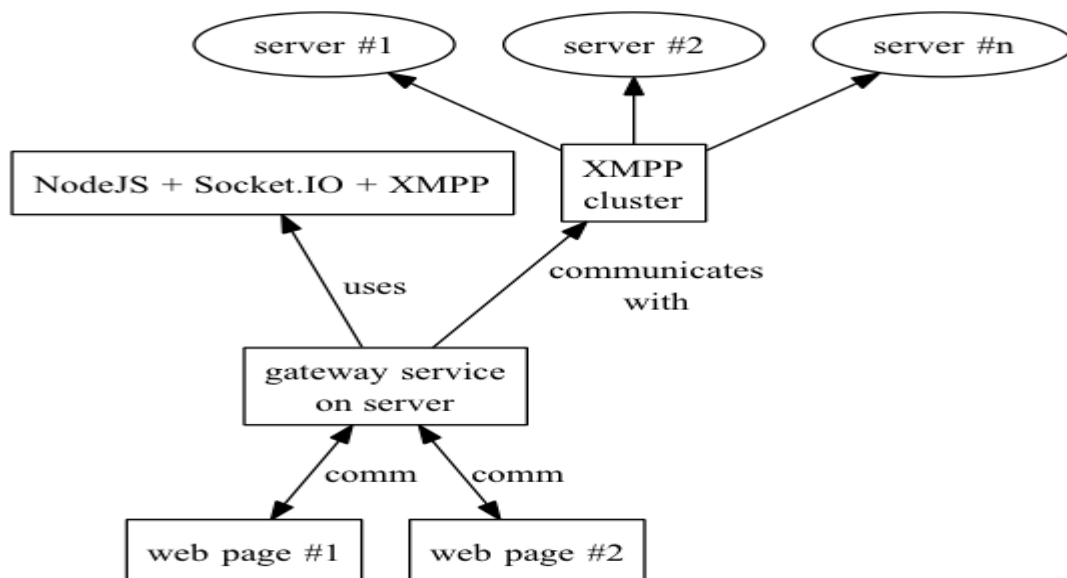- See below the Sequence Diagram:

Fig….SERVICE ORIENTED ARCHITECTURE.

5. Data Model and Description:-
It means the whole concepts about the real facts should be clear and precepts.

VII. SOFTWARE AND HARDWARE REQUIREMENT

a. Operating System: Windows XP/7/8/8.1
b. IDE: Sublime text,Web storm
c. Programming languages: Angular JS, Java Script
d. Database: MySQL, QUICK BLOX
e. Website Server: Tomcat, Ionic
f. System   : Pentium IV 2.4 GHz.
g. Hard Disk   : 40 GB.
h. Floppy Drive   : 1.44 Mb.
i. Monitor : 15 VGA Colour.
j. Ram   : 512 Mb.

VIII. CONCLUSION

As we seen in our program the whole concept is around Windows client connect with anyone for chatting which is un-known before this concept, here we can chat through web to any operating based system like android,iOS etc.

Security level of this is also up to mark, because here we use fire based cloud which is services provided by Google. And it is able to connect you in a quarter of second to another system for chatting.

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