

Multifunction Multiplatform Messenger

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ABSTRACT

The modern day Smartphone's have built in apps like "What'sApp & Viber" which allow users to exchange instant messages, share videos, audio's and images via Smartphone's instead of relying only on Smartphone's, we built a system which will work on any platform. User can use same application on multiplatform. This project is messenger application like other android based application such as what's app, Viber, LINE but limitations of all those applications are removed in this messenger. There has been rapid increase in online communication in the last 7-8 years, especially in mobile communication. Smartphone's have taken up the market so well that everybody now can interact, socialize, and can share ideas and Information sitting at any corner in the world. Today's young generation is busy in chatting and messaging every time with friends and with unknowns too. People are continuously exchanging information like images, videos, activities and events. But despite of getting connected with friends for more and more time, Smartphone battery and network problems are also major problems, so to reduce that our project is developed so user can chat with friends from any net café or personal computer without limitations. And to avoid unauthorized use on mobile phone inbuilt security is given so no need to use app locker application or application hider.

Also provides maximum functionality and security for each user to back up his/her chats on server. User can access this application from any platform. All file support to send over internet, offline messaging and sticker facility is available.

Keywords— Multiplatform, Web Services, Android, Group chat, Web based, File sharing, Client-server, Security with Backup.

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I. INTRODUCTION

Multifunction Multiplatform Messenger is a chat Messenger built on all platforms so that users can log in to account anywhere on worldwide on any platform Web access, Linux OS, windows OS, Android & Windows Phone. It has basic features like chatting all types of file support to send over internet and offline messages is available. It has additional feature like stickers.

Each OS has its own messenger developed for messaging as it's the limitation of previous messengers. M3 is for developing multifunction multiplatform messenger which will work on any platform and will have no limitations. It includes simple messaging feature, sending file of any type on any device, voice calls on internet, offline messaging, smiley, stickers and main feature is security two levels of security for login time at android and hiding private chats, 100 MB of storage space for each users

on server so that messages will not be deleted also for files sent over messenger will be remain on server forever on Drop Box. Users can login to their account on any platform. On web based app user can chat even if mobile phone is lost users can do chatting on web based from any internet café.

II. LITERATURE SURVEY

There are lots chatting messenger developed in recent year on their intended platforms; Android chat messenger is one of them. It has lots of limitations like offline messaging voice call on internet & sticker facility. A group chat application is a collaborative software (also referred to as groupware) which is designed to help people communicate with each other in real time. Also no security is there at the time of opening of application, users have to use application locker software for android and windows phone OS. M3 messenger is designed such that it will overcome these limitations with no platform limitation. Those are mainly

includes what's app, Line, Viber, Hike, Chat On are android based apps, Yahoo, Gtalk, msn are pc based applications.

Recently, some chat applications like telegram is example of heterogeneous network but still has some limitations like backup facility, security, offline messaging and the main feature of stickers with all file type support to send over network to other users. This application works on android windows phone also on Linux and Windows PC's if any other platform apart from this can use web based application to chat. It should be noted that these messaging applications use the phone number for user identification only and do not attempt to communicate over the regular mobile phone network. The main problem with this approach is naturally that the system has to verify the user's input, seeing as a malicious user could enter someone else's phone number and therefore hijack or create an account with false credentials.

WhatsApp the most popular tested application (judging by its widespread distribution among various smartphone platforms for Android, BlackBerry, iOS and Symbian. The vendor has not released any information on its user base, however, based on the Android, it can be estimated to have at a few million users. Recently, the vendor reported that in one single day over one billion messages were sent over Whatsapp. In contrast to other comparable messengers.

The security features and properties of Android [9, 8, 3, 10] as well as iOS [5] have been widely studied. Furthermore, smartphone application security has been evaluated in the past [6, 7]. To the best of our knowledge no evaluation of novel smartphone messaging services analyzed in this paper has been published at the time of writing. Recently, cloud storage services have attracted the interest of security researchers [6] analyzing the implications of faulty authentication in that area. There are numerous applications for Android that promise encrypted, secure communication. By using a single data network for all communications, it reduces the overall maintenance and deployment costs. The benefit for both students, workers is that they now have the opportunity to choose from a much larger selection of service providers to provide voice and video communication services.

III. PROPOSED SYSTEM

In this section actual working of project is described. M3 uses web services to provide usability on all platforms, also uses Google services to provide android based development and DropBox feature to store chat history with files sent over network to store as a backup on e-mail so that each user will get his/her backup on their email.

Minimum requirement of software for phone is android 2.3 (Gingerbread) and windows phone (8.0) also for PC based app latest version of java. There is no other hardware requirement.

Once user fill up the registration form on mobile his/her contacts will be uploaded to server for future use, as pc based app can be used by multiple users so any number of users can log on to app [2]. And can get their mobile phone contact on pc based so that no need to type contact for chatting from pc's.

3.1 Proposed architecture basically consists of client and server module which may include the following steps.

1. First of all server program runs on server machine.
2. Then client program runs on android based mobile device and send a request to connect with server.
3. Once the client is successfully connected, the server sends the list of all other active users to the client.
4. Client can view the list of all active users and can communicate with them.
5. Server creates a separate connection for each client, for that server is responsible for making thread for each client connection. This thread will be responsible to send/receive data to/from the client.
6. When a client sends a message to another client, that message travels through server and then after to receiver.
7. Then server sends this message to the appropriate receiver.
8. The receiver receives the messages.
9. In the same way receiver can reply message to the sender.

This application basically uses the concept of socket programming and multithreading. There will be one thread for executing server program and a separate thread to handle each client connection.

There are several types of messages:

- [1] RPC calls (client to server): calls to API methods
- [2] RPC responses (server to client): results of RPC calls
- [3] Message received acknowledgment (or rather, notification of status of a set of messages)
- [4] Message status query

Multipart message or *container* (a container that holds several messages; needed to send several RPC calls at once over an HTTP connection, for example; also, a container may support gzip).

Prior to a message (or a multipart message) being transmitted over a network using a transport protocol, it is encrypted in a certain way, and an *external header* is added at the top of the message which is: a 64-bit *key identifier* (that uniquely identifies an *authorization key* for the server as well as the *user*) and a 128-bit *message key*.

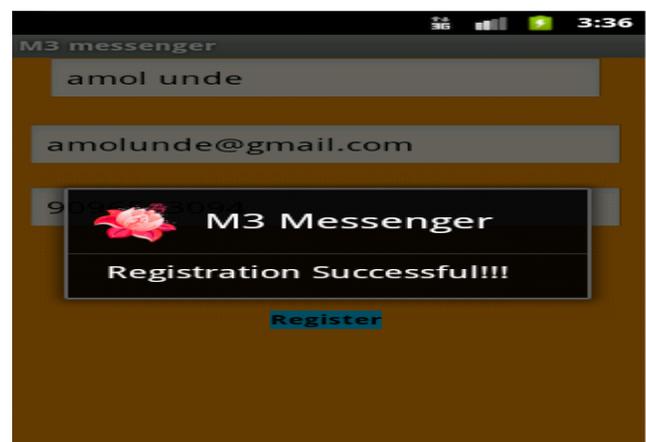


Fig. registration form on android platform.

A user key together with the message key defines an actual 256-bit key which is what encrypts the message using AES-256 encryption. Note that the initial part of the message to be encrypted contains variable data (session, message ID, sequence number, server salt) that obviously influences the message key (and thus the AES key and IV). The message key is defined as the 128 lower-order bits of the SHA1 of the message body (including session, message ID, etc.). Multipart messages are encrypted as a single message.

IV. EXPERIMENTAL WORK

Heterogeneous application supports all platforms. All platform users can use and can communicate with all types of users. Web services provide this functionality of working of this project. M3 project is work in five different environments. These are below:

- [1] Web base.
- [2] Android operating system.
- [3] Windows operating system.
- [4] Linux operating system.
- [5] Windows phone.

Functional Block: The next block of architecture diagram contains number of services which should be offered by M3 messenger.

- [1] Chatting
- [2] Messaging.
- [3] All file type support.
- [4] Stickers.

After get login into the system user can easily use above services of an M3 messenger.

Server: These all tasks should be handled by the server. Which also is connected with a database? Which will make all data entries in the database? Each user can also assign some memory in the database which will be useful in storing chatting. It also used as a mail-id. To store all type of files, chatting etc.

Database: Database will store all users' information which entered by user in registration form. It also store username and password. Also stores chatting, images, files etc. And when demanded by server it will provide it to server.

Messages: In M3 messenger we use messages for user verification and Emergency contact messages purpose.

Packages are used in M3 project:

```
Android.activity.Activity;
Android.widget;
Android.view.*;
Java.util.*;
```



Fig. General working of M3 Application.

V. CONCLUSION

This paper presents an idea to develop a service for the internet users, this service will be deployed on the internet server for any type of users. It allows Smartphone, tablet users, pc users also web support to send and receive messages over internet at free of cost. This communication need to interact with mobile service provider and take data plan for Internet connectivity.

REFERENCES

- [1] http://en.wikipedia.org/wiki/Comparison_of_instant_messaging_clients.
- [2] Understanding Instant Messaging Traffic Characteristics Distributed Computing Systems, 2007. ICDCS '07. 27th International Conference on Date of Conference: 25-27 June 2007 Page(s): 51 ISSN : 1063-6927 E-ISBN : 0-7695-2837-3 Print ISBN: 0-7695-2837-3 INSPEC Accession Number: 10290186 Conference Location : Toronto, ON DOI: 10.1109/ICDCS.2007.149 Publisher: IEEE.
- [3] Andre Morum de L. Simao, Fabio Caus Sicoli, Laerte Peotta de Melo, (2011) ACQUISITION OF DIGITAL EVIDENCE IN ANDROID SMARTPHONE. Available at <http://igneous.scis.ecu.edu.au/proceedings/2011/adf/9thADFProceedings.pdf#page=122>.
- [4] https://www.google.co.in/?gws_rd=ssl#q=WEB-BASED+INSTANT+MESSENGER.pdf.
- [5] iForensics: Forensic Analysis of Instant Messaging on Smart Phones Publisher : Springer Berlin Heidelberg year 2010 .
- [6] <http://www.hongkiat.com/blog/whatsapp-viber-wechat-comparison>.
- [7] Web based security analysis of OPASS authentication schemes using mobile application Published in: Emerging Trends in VLSI, Embedded System, Nano Electronics and Telecommunication System (ICEVENT), 2013 International Conference on Date of Conference: 7-9 Jan. 2013 Page(s): 1 - 3 Print ISBN:978-1-4673-5300-7 INSPEC Accession

Number:13431580 Conference Location :Tiruvannamalai

DOI:10.1109/ICEVENT.2013.6496552 Publisher:IEEE.

[8] Skype, <http://www.Skype.com>

[9] The Java programming language. <http://java.sun.com/>.