Sindh Univ. Res. Jour. (Sci. Ser.) Vol. 48 (2) 301-304 (2016)

SINDH UNIVERSITY RESEARCH JOURNAL (SCIENCE SERIES)

Destroy Messages: Design and Development of Software Tool for WhatsApp

A. K. JUMANI, J. A. MAHAR, F. A. SURAHIO, M. H. MAHAR, H. A. MAHESAR*, S. TALPUR**

Department of Computer Science, Shah Abdul Latif University, Khairpur Mir's, Pakistan

Received 16th May 2015 and Revised 28rd February 2016

Abstract: Most of the users are constantly engaged with different social networking sites including WhatsApp. It is an instant message application that provide user friendly environment of communication to the users for exchanging the valuable information. It is noticed that sending images, video and audios is a routine activity of user(s). During the process of sending messages to the recipients, user accidently sends soppy, funky or rude messages to parents, teachers and others. After that they feel guilty and want to delete message before reaching to the destination. There is no any option or tool available in WhatsApp through which sender can break or delete such kind of message before receiving. A software tool named Destroy Message is presented in this paper which facilitates to the WhatsApp user to delete message(s) before reaching to destination. This software application is developed using C# web application with Asp.net framework. The process of sending and deleting the message is tested by different users and received precious results. This smart phone application tool will be beneficial for the users of WhatsApp to save interpersonal relationships before breaking.

Keywords: Social Networks; WhatsApp; Message Sending; Interpersonal Relationships

1. INTRODUCTION

Social networks considers as boon of network. Many instant messengers have been introduced in the market including Viber, IMO, Line, Webchat etc. WhatsApp is most popular application among them. WhatsApp is an application used to share information and data instantly. It is popular, secure channel for communication. It uses an internet data plan for sending multimedia or plain text messages. More than 500 million users and more than 20 billion messages sent each day in 2014 (Buchenscheit, 2014). It is an easy and suitable way to skip international fees that carriers may charge it. It is presently running in Smart phones such as IPhone, Android, Windows Phone, blackberry etc. Cellular number of the device is uses to get started. It has provided various new features which facilitates to user not only send multimedia or plain text message but also can attach documents. These attachment options consist on gallery, photo, video, audio, location and document. Most of the students and teachers use Group Chat for sending and receiving notes, video lectures and event announcement in the form of images. Almost business man uses same feature for making business deals and make strong business partnership without meeting in individual. WhatsApp has introduced a new feature called "Starred Message" and it is used to bookmark the messages so user can find it later easily, By pressing hold down key on any message it will appear option bar which consist on some features like Starred message, recycle bin, forward button tool for providing different functionality.

It is observed that there is no any tool currently available which helps users to save interpersonal relationship before say good bye. Therefore, it is a great need to put some efforts towards this critical problem.

Many researcher have done work regarding different aspects of WhatsApp. (Smith 2015) has explored one approach of Social Alerting, when group members report one another straight, rather than trust on app notifications. Furthermore, the problem addressed in this paper is one step forward in the betterment for saving interpersonal relationships using WhatsApp. (Martin, 2014) (Kavisha, 2014) have proposed a technique for Group Chat privacy concern among the application users. Moreover, (Bouhnik, 2014) discussed about four main purpose of WhatsApp including communicating with students, nurturing the social atmosphere, creating dialogue and encouraging sharing among the students. Thus, (Wiese, 2014) has revealed several explanations and indicate fundamental challenges for inferring tie strength from communication logs. (Malhotra 2014) proposed a methodology to provide instant messaging services over the intranet which is address to android based smart phones. The method is based on sending / receiving messages through intranet server via Wi-Fi connection without need of taking any service from mobile service provider

++Correspondence Author: Email, J. A. Mahar mahar.javed@gmail.com

* University of Sindh, Jamshoro

** Department of Computer Systems and Engineering, MUET. jamshoro

and without the use of internet connection. (Pielot 2014) presented a machine computed prediction whether the smart phone user will view a message within next few minutes or not. According to (Avrahami 2006) Instant Messengers have negative impacts over interpersonal relationship due to sending messages and result of this kind of expectation is the rise of anxiety and other negative feeling in people. Furthermore, the problem which is addressed in this paper is one step forward for saving interpersonal relationships before breaking.

2. CLOCK SIGNS

Clock signs have dived into three steps and each sign assigned a color. (Fig.1) shows Clock signs with its color.

Fig.1 Clock Signs

(Fig.1) illustrates three clock signs. When a user sends a message it displays Clock icon which means that message is not sent to the server of WhatsApp due to waiting for internet bandwidth icon or internet connectivity issue. Single Grey Tick sign indicates you that message has sent to server but receiver is not received yet. While this process message has travelled from you mobile device to the server and it is trying to send request to receiver and waiting for acknowledgment. In Double Grey Tick Sign scenario the message has reached to mobile but it is not read by recipient. Finally Double Blue Tick Sign clarifies the message has reached to destination and read by receiver.

3. PROBLEM IDENTIFICATION

Almost WhatsApp Users send messages to their family members mistakenly instead of friends and they tries to delete it but they become hopeless due to lack of tool. (Bianca 2013) reported that a Quarterly people have sent sexually explicit text to the wrong person including naughty photos to family member. **(Fig.2)** illustrates a graph of sent wrong message.

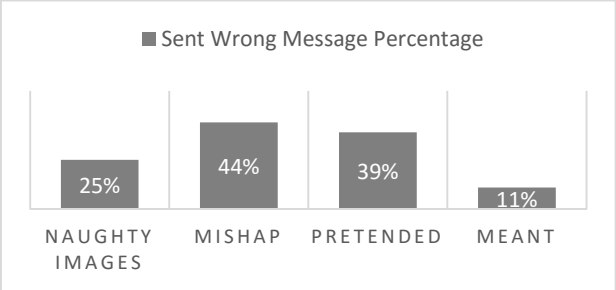

Fig.2 Percentage of Wrong Sent Messages

(Fig.2) shows 25% people have sent naughty images to family member, 44% acknowledged it and apologized for the mishap. 39% ignored it and pretended it had not happened. 11% pretended the message was meant for recipient. It could be increase day by day. It is possible that victims become of anxiety or it could be committed suicide due to send naughty message to wrong person or family member. WhatsApp can solve this matter by adding our proposed tool into existing application for destroying message before it received.

4. MATERIAL AND METHODS

WhatsApp used a store and forward mechanism for sharing information between users. It is based on client server architecture. (Fig.3) shows status of current WhatsApp client server sending message mechanism.

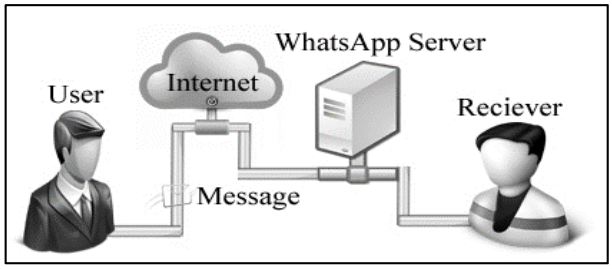

Fig.3 Architecture of Sending Receiving Messages

(Fig.3) illustrates that a user send a message it stores in Centralize database Server where the message actually stored. It repeatedly requests until a receiver to acknowledge receipt of the message. Once it received server drops the message which means message is no longer in database.

As discussed earlier, there are three clock signs and each sign has its own explanation. In our proposed work we have introduced a tool that can delete the message which stored in Server database while it is in first two clock signs process. Application was tested in Intranet environment, Timer were used to count each tick and SQL Server database used as Centralized server where contacts already stored to accomplish this task. Each Sign tick has given a 3 seconds time and approximately duration of time is 6 seconds of first two Sign ticks. User can delete message within predefined time via introduced tool entitled with “Destroy Message” **(Fig.4)** shows sending receiving intranet architecture.

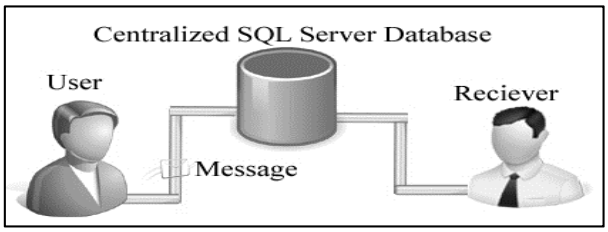

Fig.4 Intranet Sending Receiving Architecture

An introduced tool was tested in an application under intranet environment. Once a user send a message, Server stores in database and receiver will not receive that message until tick sign becomes blue. Server drops the message which a user acknowledge receipt of the message it means message is no longer in database. While processing of first two tick sign, user can delete message using presented tool which uses Data Manipulation Language (DML) **(Fig.5)** displays a flowchart of destroy message tool process.

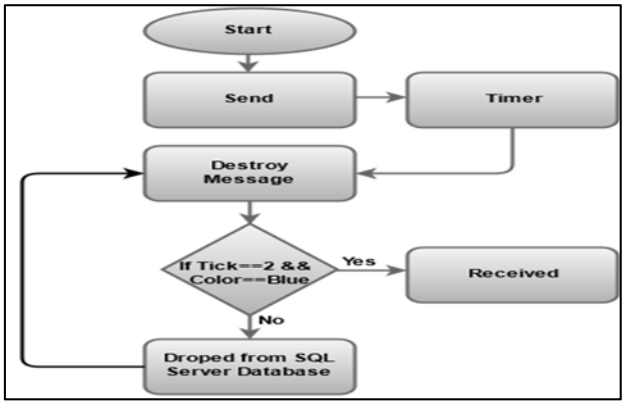

Fig.5 Process of Destroy Message

By pressing send button timer will initialize and count each tick. Destroy message checks, if the condition matches the criteria recipient will receive the message else it can delete easily via that tool which executes the delete method using data manipulation language and it drops the message from SQL Database Server.

6. RESULTS

Destroy Message tool was tested in Intranet Environment. Five Users from different devices had sent the request to server for dropping the message before Clock sign tick becomes blue. Browser used as a thin client and Internet Information Server (IIS) supports to designed web application for testing and debugging. Base64 encoded thumbnail were used for multimedia messages along with it content. Data manipulation language (DML) is a syntax part of computer programming language used for selecting, deleting, inserting, updating data in a database. Destroy tool deletes message with the help of (DML). Standard Visual Studio button objects were used to send and attach the content based on images, videos and audios. Textbox supports for writing plain text messages. Once a user sends a message to receiver by pressing tab hold on image destroy tool button will appear top of the images and by clicking on button it drops the image from centralized database server and message will no longer into the database. (**Table.1**) shows each user results during sending, deletion, the messages. The calculated results of the users are depicted in **(Fig.6).**

Table.1. displays each user result

Users	Message Type	Sent	Deleted	Received
User1	Images	7	5	2
User2	Videos	3	2	1
User3	Audios	5	3	2
User4	Images	9	7	2
User5	Text Messages	2	0	2

Mostly presented tool provided successful results for deleting the messages based on Images, Videos and Audios except plain text message because it is noticed that plain text message quickly received as compare to multimedia messages.

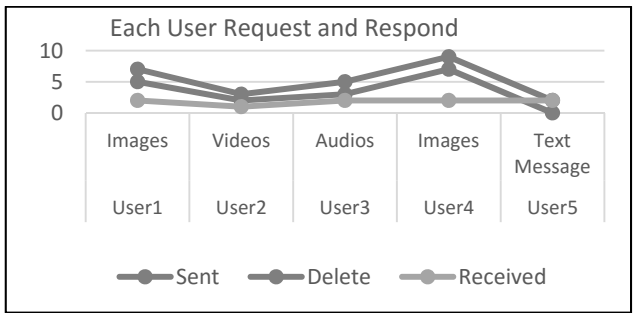

Fig.6 Graphical Representation of User results

(Fig.6) shows a graphical representation of each selected user sending, deleting and receiving progress. The user 1 has sent 7 images and it deleted 5 images and 2 were recipient received. The user 2 has sent 3 video and it became successful for deleting 2 videos and 1 was reached at appropriate destination. The user 3 has sent 5 audios and it deleted 3 audios out of 5 and 2 received by recipient. The user 4 has sent 9 images, among them 2 were received by receiver and remaining 7 images deleted successfully.

Furthermore, the user 5 has sent 2 plain text messages but it was not successful to delete the message. It is noticed that sending plain text message is more rapidly received as compare to multimedia messages. Furthermore, it consumes less time to reach from source to destination.

For the simple communication, message sending and receiving, we have developed user interface depicted in **(Fig.7).** The user can also attach the audio, video and plain text files.

Image has sent to mentioned number which is appearing at the left side of the image and sign tick is visible at the right bottom of the image. It is tabbed hold and Destroy message tool appeared top of the image. Once a user press on that tool, it counts the sign ticks and checks the criteria. If both conditions are matches, it executes a delete method of data manipulation language for deleting that image from database server and receiver will unable to receive this image.

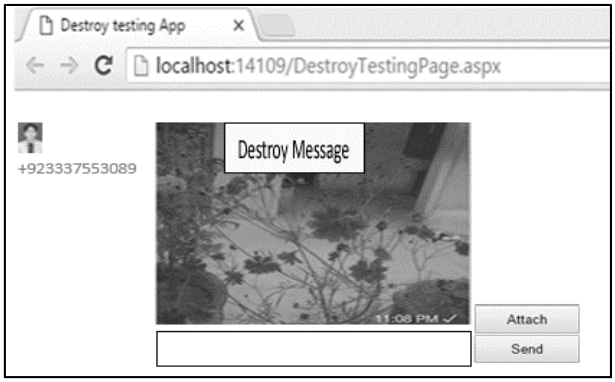

Fig.7 User Interface of Developed Web Application

7. DISCUSSION

WhatsApp has given us facility to share data and information instantly using group chat feature. It has also provided to attach various documents, images, videos, audio, locations, etc at the same time. Clock signs indicates either user has received message or not. But, there is no any tool is available to delete the message before a recipient received it.

A software tool named Destroy Message is developed and proposed in this paper for deleting message before recipient received it. An application is designed and developed in C# and Asp.net framework using Object Oriented Programming paradigm. The standard button objects and textbox were used to accomplish that task. Destroy message tool consist on Data Manipulation Language which performs the action of selecting, inserting, deleting, updating data into the centralized database server. By using attach button user can insert an image into current application and send to recipient contact number via send button. Once an image has sent, timer will initialize and counts the time duration. Before clock sign tick becomes blue and time duration is not crossed 6 seconds user can tab hold on image and delete the images based message easily via presented tool.

Different users have tested a process to send and delete the message from different locations at the same environment through Computer machine and mobile device and achieved acceptable level results except in sending plain text message. The outcome of this research is to provide the facility to the users of smart phones so that they can delete abuse full, naughty messages before their friends or family members received it and they can also save interpersonal relationships before breaking. In future, some research efforts will put on deleting plain text message before receiver to acknowledge receipt of the message.

8. CONCLUSION

WhatsApp instant messenger application is a robust and user friendly environment for users. Group chat, broadcast list are better features for sending data to each other instantly. Almost users accidently have sent messages to wrong person or family member which grounded naughty and abuse full. After send message, user feels guilty and shy and wants to delete message before received his family member but they disappointed due to absence of tool which helps to save them. In this paper, a software tool is presented which facilitates to user to delete message before recipient received it. The presented results proved that the developed application for WhatsApp is useful enough for the users of smart phone. It assists practitioners to keep interpersonal association before declare send-off.

REFERENCES:

Avrahami, H. (2006). Communication Characteristics of Instant Messaging: Effects, Predictions of Interpersonal Relationships. Conference on Computer Supported Cooperative Work, Banff, Alberta, Canada, 505-514.

Buchenscheit, A., B. Konings, A. Neubert, F. Schaub, M. Schneider, F. Kargl, (2014). Privacy Implications of Presence Sharing in Mobile Messaging Applications. International Conference on Mobile and Ubiquitous Multimedia, Melbourne, Australia, 1-10.

Dan, B., M.Deshen, (2014). WhatsApp Goes to School: Mobile Instant Messaging between Teachers and Students. Journal of Information Technology Education: Research, 13, 217-231.

Kavisha, D., L, Ms.Reema. (2014). Step-Up Towards Privacy and Connectivity Concerns in WhatsApp. International Journal of Computer Science and Information Technology & Security, 4(2), 14-17.

Martin, A., D. Motwani, (2014). Compressed Chatting Over Internet. International Journal of Computer Applications 106(7), 1-5.

Mehrotra, P. T. Pradhan, P. Jain, (2014). Instant Messaging Service on Android Smart Phones and Personal Computers. International Journal of Information Computation Technology, 4(3), 265-272.

Pielot, M., M. DeOliveira, K. Haewoon., N. Oliver. (2014). Didn't You See My Message? Predicting Attentiveness to Mobile Instant Messages, the ACM Human Computer Interaction Conference on Human Factors in Computing Systems, Toronto, Canada.

Smith, M. E. J. C. Tang, (2015). They are Blowing Up My Phone: Group Messaging Practice Adolescents, the ACM Human Computer Interaction Conference on Human Factors Computing Systems, Toronto, Canada.

Wiese, J. Jun-Ki-Min, J. I. Hong, Z. John. (2014). Assessing Call and SMS Logs as an Indication of Tie Strength, Technical Report, Human-Computer Interaction Institute, School of Computer Science Carnegie Mellon University, 1-28.