AUTOMATIC RECEIVER RESPONSE MAIL SYSTEM

By

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ABSTRACT

Now-a-days e-mail usage is more. Many people pass information to their friends, relatives, workers, officials and students through e-mail. In this paper, the proposed system is about to verify that the mail is opened or not at receiver end and also to inform the sender about the mail activity that the mail is forwarded or deleted. For instance, sender wants to send the information to the receiver through mail. The receiver receives the mail information and places in to the inbox or spam folder. The sender do not know whether the receiver mail is opened or not. In this proposed receiver response mail system, once the receiver opened the mail from inbox or spam folder, the system automatically sends the mail opened information or forwarded information or deleted information mail to the sender. It is an efficient method for tracking the mail.

Keywords: Email Tracking, Receiver Response, Sender, Receiver, Email Server.

INTRODUCTION

E-mail stands for Electronic Mail. It consists of messages which are sent and received using the Internet. E-mail system comprises of various hardware and software components that include sender's client, server computers, receiver's client and server computers with required software and services installed on each. The sending and receiving servers are always connected to the Internet but the sender's and receiver's client connects to the Internet as and when required [1,3].

First the authors define the difference between delivery and read receipts. A delivery receipt informs you that your email message was delivered or not to the recipient's mailbox. A read receipt shows that the message was opened. When you send an email, it goes to the recipient's email server, which delivers it to their inbox. So when the delivery receipt is received, it shows that the message successfully reached the intended email server. But it is not guaranteed that the email is in the recipient's inbox. It can be accidentally removed to the junk e-mail folder [2].

The read receipt is sent by the person who opens the message. If you get a confirmation that your email was read by the addressee, it is obvious that the email was also delivered [2]. To obtain the above read receipt method, a concept called "Automatic Receiver Response Mail System" is introduced. The basic concept of this technique is to provide an automatic receiver mail response to the sender from the receiver system automatically when the receiver opens the mail that has been sent by the sender.

The mail system uses the SMTP, POP and IMAP protocol. The SMTP is an application protocol from the TCP/IP protocol suite that enables the support of e-mail on the Internet. Mail is sent by a series of request–response transactions between a client and a server. The transactions pass the message, which is composed of the header and the body, and the envelope (SMTP source and destination addresses). The header of packet contains the mail address, which consists of two parts, a local address and a domain name. Both SMTP client and SMTP server require a User Agent (UA) and a Mail Transfer Agent (MTA). The MTA function is transferring the mail across the Internet. The command–response mechanism is used by SMTP to transfer messages between an MTA client and an MTA server in three stages, connection establishment, mail transfer, connection termination. POP3 and IMAP 4 together with SMTP are used to receive mail by a mail server

and hold it for hosts [3, 4].

1. Related Review

Duane Bachmann et al. [5] have proposed tracking the progress of E-Mail vs Snail-Mail. In that paper, discussions were made about the advances in the computer technology and the improved popularity of electronic mail applications which have enhanced the prospective for conducting survey research through e-mail. In an experiment, comparing mail and e-mail data collection, email fared well with respect to response rates, item omission, response time, and data quality. The authors make a case for using e-mail to conduct research, but only under specific situation.

Gurpreet Singh and Mnupreet Kaur [3] have proposed the Implementation of Email Tracing Algorithm. In that paper, the authors discussed that the email tracking is useful when the sender wants to know if the intended recipient actually received the email or if they clicked the links. However, due to the nature of the technology, email tracking cannot be considered as on absolute indicator to indicate that a message was opened or read by the recipient. It is not considered that the sender gets confirmation when the recipient delete or forward the email.

Abdulkareem Al-Alwani [12] have proposed a novel email response algorithm for email management systems. The proposed model uses Bayes classifier to categorize emails into classes and generate suitable replies to these classes using information extraction and template filling. Our research aims to intelligently automate email response using Naïve Bayesian classification and formulate probabilistic dictionaries for accurate information extraction. This research will help in reducing email overload and unavoidable congestion by employing a novel email response architecture for an email management systems.

Microsoft Outlook with Exchange Server [6], the concept of this method states that "If both the sender and the recipient use Microsoft Outlook with Exchange Server", then there will be no problem in request delivery receipts and it will get notified when the email is opened by the recipient. But all email clients does not support this mail confirmation feature.

Email tracking is a method for monitoring the email delivery to the intended recipient. Due to some drawbacks in the above method, they proposed a technique called "Email Tracking System". This method states that "When you are ready to send your message, you just add the tracking service address to the recipient's email address", and your message turns out to be automatically and invisibly tracked. As soon as the recipient opens the email, you will get a notification from the service and your recipient will not know about it. The information you get varies from service to service. Most of them shows you when your message was opened, how long it took the recipient to read it and where the addressee was when he got the message [7].

SMS Banking [8], The banking sectors makes use of receipt open technique by providing the user about current credit or debit in your account through message which is a type of verification done at the banking sector to avoid unauthorized access.

Other social Communication Networking Services [9, 10], like "facebook", "whatsapp", "hike" uses the read receipt concept which helps the sender to know whether the receiver has opened his mail or message.

2. Problem Statements

In case of Microsoft outlook exchange server, if you only use one PC, none [11]. If you work in a hot-desking environment, or even just occasionally use another PC, then your entire exchange folder will be downloaded when you start Outlook. If you are subject to a quota, not such a problem but if you have several GBs of data stored on exchange, bit of a pain in the network.

When Cached Exchange Mode is enabled, Search Folders will not work properly in Outlook Web Access. For example, you may not be able to see the Unread Mail search folder.

It is not possible to say that the "Email tracking services will give 100% guarantee that your email was read". They can only track HTML messages, where the HTML emails normally contain images that are often switched off default or blocked. True opinion may not be expressed in the emails, it makes some fear about sending mail for someone reading it.

Other social communication site like whatsapp, SMS

banking and hike, has less security because it just uses the mobile number to communicate so the intruders may make use of the information easily. In whatsapp, there is a possibility of hiding or changing the last seen from the sender. Though facebook, whatsapp, and hike provides privacy, the security is not much effective because they are all social network communication service provider where people get to know all the information about a particular person which leads to hack their information easily.

3. Proposed System

The receiver response mail system allows the sender to know about the message that is being sent from the receiver mail system automatically when the receiver reads or open the mail in the inbox or spam box. This case delivers a proposal called automatic receiver response mail system to send message from the receiver system to the sender to know whether the receiver has opened and read his mail or not.

3.1 Automatic Receiver Response Mail System

We live in a modern world, where technology plays a vital role to share our ideas with people all around the world, though we use modern apps to hangout with friends, relatives and workers. E-mail is one of the best mail systems to transfer our informations in a secured way. We know that, a single mail account will help us to connect with all other applications like facebook, whatsapp and many more. Even then, we connect with e-mail since it provides a secure method of transferring information and many more authentication are being provided to make it more secure. Mail systems are used in schools, colleges, hospitals, banks, government offices, business, etc., to access and share the information in a well secured manner. "The automatic receiver response mail system" is used to improve the working process of the mail systems by sending an automatic receiver mail response to the sender from the receiver system automatically when the receiver opens the mail that has been sent by the sender.

3.2 Structure of a Mail System

Figure 1 shows the structure of a mail system. The sender sends mail to the email server, the server forwards the mail to receiver server. The receiver server forwards to the receiver mail. For each e-mail account, automatic

Figure 1. Structure of a Mail System

receiver response mail system is set with read receipt concept as such in whatsapp, facebook, etc. Instead, email provides more authentication to transfer mail than other systems, where each account consists of an e-mail address of the entire recipient's in their account. If the sender mail to one of the recipient's in his account and if the receiver opens the mail from his inbox then the mail is sent from receiver system automatically to the sender. Else no message will be received. Here delivery as well as read receipt concepts is successfully used to perform mail system in an effective manner.

3.3 Proposed Mail System

The proposed mail system consists of exiting operation in the mail system (traditional method) along with mail response reply operation. The following steps are performed in mail response reply operation.

Step 1 : Sender sends the mail message to receiver.

Step 2 : When receiver opens the mail message, the system automatically sends the open message (the message received is now viewed).

Step 3 : If mail is forwarded to others, the system sends the forwarded information (forwarded address) to sender.

Step 4 : If mail is deleted, the system sends the deleted information to sender.

Step 5 : Reply message is put into the receiver reply folder.
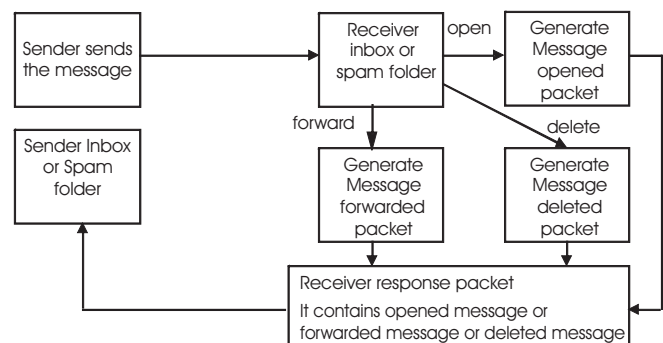
3.4 Message-Response Flow Diagram

Figure 2. Mail Message and Response Flow Diagram

Receiver Address	Sender Address	Opened information (Date and Time)

Figure 3. Message Packet Format for Opened Information

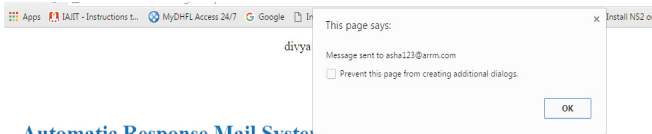| Receiver Address	Sender Address	Deleted Information (Date and Time)

Figure 4. Message Packet Format for Deleted Information

Receiver Address	Sender Address	Forwarded information (Date, Time and Forwarded address)

Figure 5. Message Packet Format for Forwarded Information

Figure 2 illustrates the mail message and response flow diagram. The sender sents the message to the receiver ID. It is placed on inbox or spam folder. When the receiver opened that mail from inbox or spam folder, the system automatically generates the packet and sends the opened message packet to the sender (Figure 3). When the receiver deletes the message from its position, the system automatically generates the packet and sends the deleted message packet to the sender (Figure 4). When

Figure 6. Sender Send the Message

Figure 7. Receiver Inbox
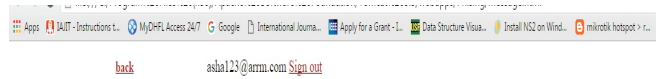
Figure 8. Mail Message Details

Figure 9. Sender Inbox After Automatic Message
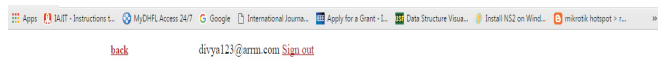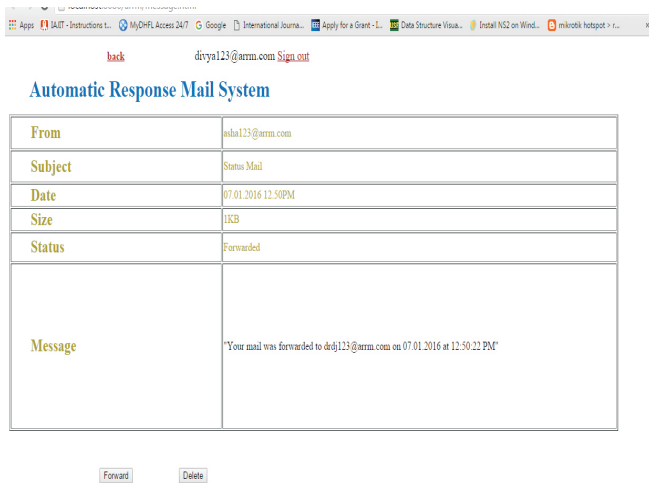

Figure 10. Opened Mail Message
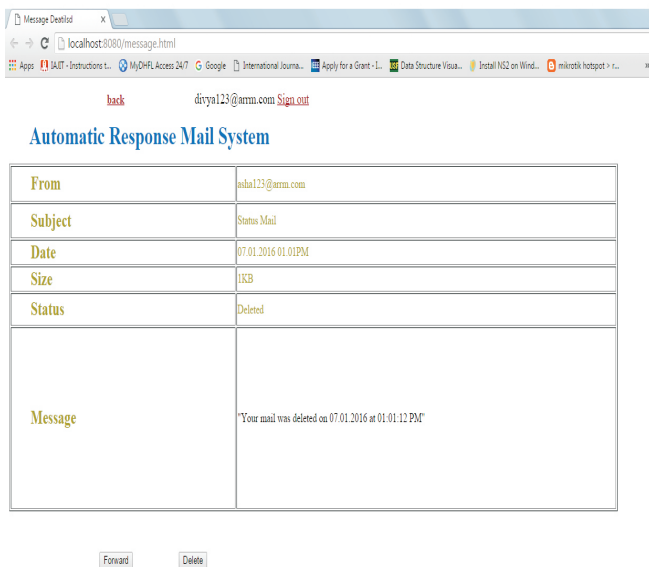
Figure 11. Forwarded Mail Message

Figure 12. Deleted Mail Message

the receiver forwards the message from its position, the system automatically generates the packet and sends the forwarded message packet to the sender (Figure 5).

4. Implementation

Figure 6 through 12 shows the simulation result of the entire operation of an automatic receiver response system.

Conclusion

In this paper, the authors present a result of simulating the receiver response mail system. The authors have proposed a new concept of receiver response mail system, which is used to reduce the problems in email tracking services and other social communication services like facebook, whatsapp, and hike, because as in the case of an e-mail, a particular user with UID and password can have all the personal informations secure. Many other security measures are also being used to protect the e-mail so it is a more secure site. The automatic receiver response mail system concept in e-mail sends the message from the receiver system to the sender automatically when the receiver opens the mail and it also provides security to the particular user by providing him an user account and password which increases the concept of security. The "Automatic Receiver Response Mail System" helps the businessman, firms, colleges, hospitals, and other important public and private sectors to know whether the mail that has been sent from them is opened by the receiver or not. The main concept of this proposed technique is used to know whether the mail is opened or not at the receiver end and also to known whether the mail is forwarded to others or deleted message. In future, the forwarded details may be tracked.

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