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Enhanced Secured Mail Services Using SMTP

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Abstract: Many organizations host Web-based e-mail sites for the convenience of their employees or constituents without adequate security planning. It's critical that you consider the risks inherent in providing Web-based e-mail access and weigh them against the convenience of allowing employees to access their personal e-mail at work.An organization using a normal mailing system may not be safe during the mailing process as the exchange of the data may reside at the third party server. The Intranet Mailing System is applicable only within an organization.

In this fast growing world where every qualified person is in urgent need of a job, they join places, working at odd times. The organization has shift times and it becomes difficult for an employee of a particular shift to communicate with another employee of a different shift. The organizational mailing system can implement the database that will be controlled and maintained by the organization head, where as in normal mailing system, the database is controlled and maintained at the third party side, where there is a chance for the third party to view the data. The main objective of our system is to keep the organizational data secure and confidential. The method used in this project provides security to the data while receiving the mail in a very secure method. In this mailing system every employer/employee will have their own user id and password through which he can login and communicate with other employees also with the administrator.

Email system has many protocols, which have their own functionalities to accomplish the process of sending or receiving mails. The commonly used protocols are Simple mail Transfer protocol (SMTP), TCP and POP. Transmission Control protocols (TCP) is used for sending mails and Post Office Protocol (POP3) protocol for retrieving mails. In this project, port 25 of TCP and port 110 of POP are used for sending and receiving mails respectively.

I. INTRODUCTION

Email privacy is the broad topic dealing with issues of unauthorized access and inspection of electronic mail. This unauthorized access can happen while an email is in transit, as well as when it is stored on email servers or on a user computer. Email has to go through potentially untrustworthy intermediate computers (email servers, ISPs) before reaching its destination, and there is no way to tell if it was accessed by an unauthorized entity. Email security issues are some of the biggest threats to your organization's productivity and profitability. From malware and viruses to advanced threats like email phishing, email security issues can lead to breaches that cost millions of dollars in lost business and damage to your reputation. Companies whose email security systems could not stop some new email threat are all over the news. There are some technical workarounds to ensure better privacy of email communication. Although it is possible to secure the content of the communication between emails, protecting the metadata of (who sent email to whom) is fundamentally hard. Even though certain technological measures exist, the widespread adoption is another issue because of reduced usability.

SMTP servers and clients normally communicate in the clear over the Internet. In many cases, this communication goes through one or more router that is not controlled or trusted by either entity. Such an untrusted router might allow a third party to monitor or alter the communications between the server and client. Further, there is often a desire for two SMTP agents to be able to authenticate each other's' identities. For example, a secure SMTP server might only allow communications from other SMTP agents it knows, or it might act differently for messages received from an agent it knows than from one it doesn't know.

Transmission Control protocols (TCP) is a connection-oriented, end-to-end reliable protocol designed to fit into a layered hierarchy of protocols which support multi-network applications. The TCP provides for reliable inter-process communication between pairs of processes in host computers attached to distinct but interconnected computer communication networks. Port 25 is primarily used for SMTP relaying. SMTP relaying is the transmittal of email from email server to email server.

Post Office Protocol (POP) is an application layer Internet standard protocol used by local e-mail clients to retrieve e-mail from a remote server over a TCP/IP connection. POP has been developed through several versions, with version 3 (POP3) being the last standard in common use before largely being made obsolete by the more advanced IMAP as well as webmail. Although most POP clients have an option to leave mail on server after download, e-mail clients using POP generally connect, retrieve all messages, store them on the user's PC as new messages, delete them from the server, and then disconnect. A POP3 server listens on well-known port 110.

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We create unique username and password for each user. After the user signs in the login form, the sender form will be displayed. In the sender form we enter the normal requirements as seen in other mail services. We include an additional option called as Securable, to provide a one-step high security to the mail. The mails are stored in the database. Once the user clicks the Inbox button a table with list of received mails will be displayed. The user selects a mail after which a password authentication is provided. When the user enters the correct password the mail will be displayed in the receivers form.

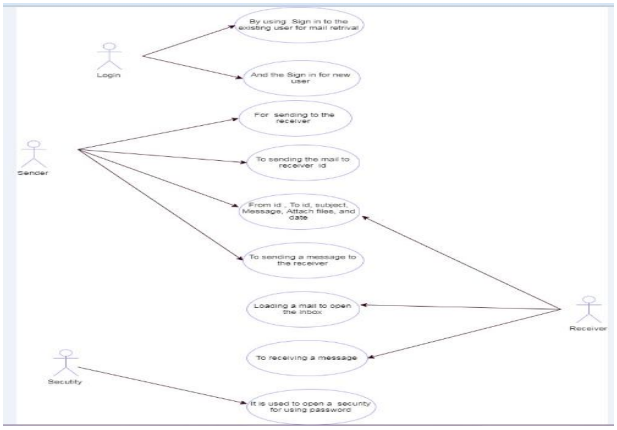


Figure.1 SMTP MAIL SERVICES

II. CONCLUSION

The problem has been that some old mail software did not send the information with a reply which is needed to know which thread it belongs to. But this is becoming less and less common. Future mail software will make this much easier. The mail client will know which commands to send in order to post, subscribe and unsubscribe to different groups. It will know which e-mail addresses are mailing lists, and if you are subscribed or not to each list. It will automatically sort each mailing list to a folder. The user will be able to use commands built into the graphical user interface of the e-mail client to find a mailing list, subscribe or unsubscribe from it, post to it. Even though the actual commands sent to the mailing list software is different for different e-mail software, this will be hidden from the user. The e-mail client will translate the commands given by the user into the right command sent to each mailing list.

III. FEATURE ENHANCEMENT

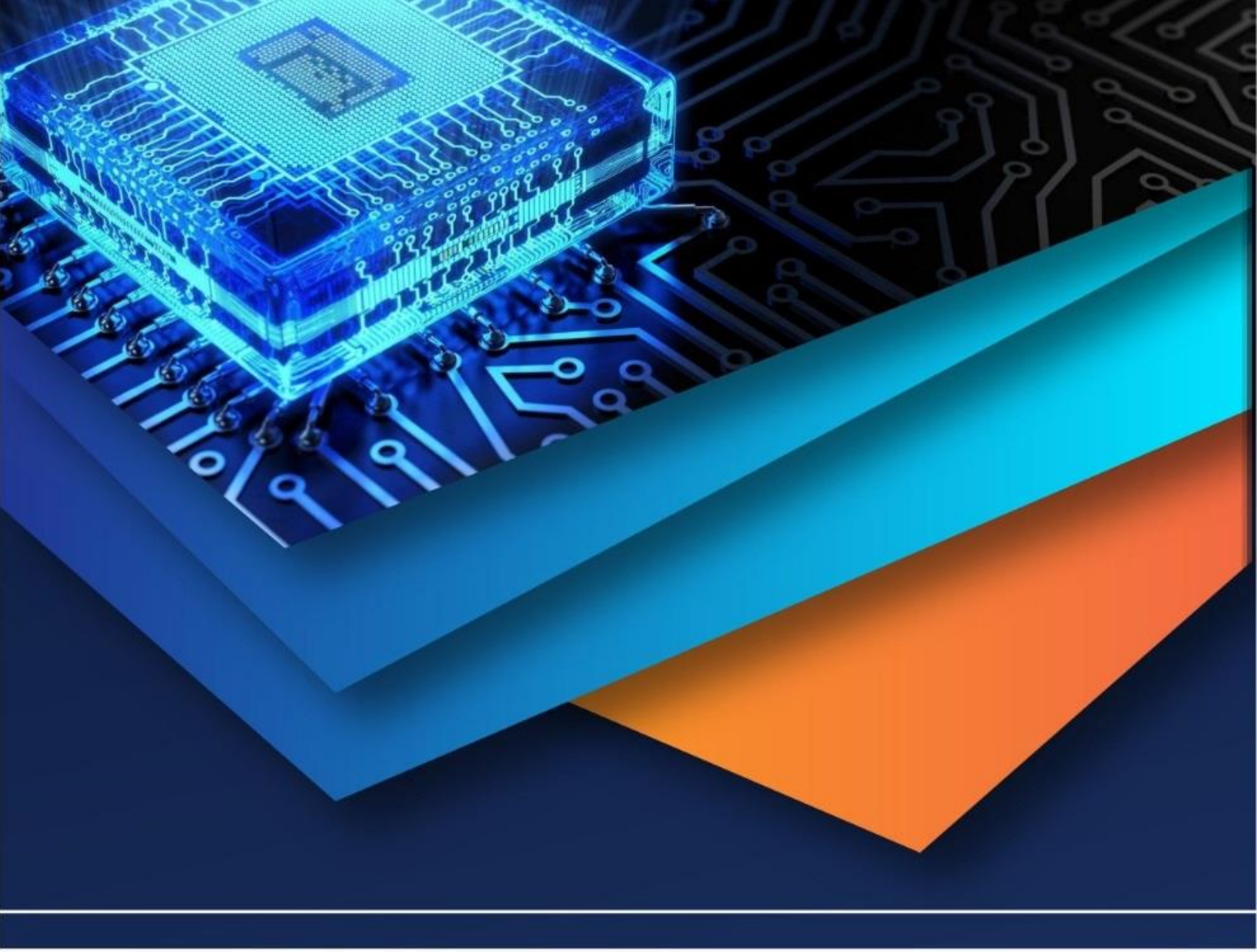
This project was developed to full fill requirement; however there are few scopes to improve the performance of the Secured Mail Services in the user interface, database performance.

In this mailing system we are using the security to provide authentication as well as the confidentiality to the data while transferring the data through the network. In future we generate random one time password(OTP) for each mail and that password is send to the receiver .

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