**ABSTRACT**

The project entitled as “**Military Intelligence Messaging System”**. This project is to send and receive mails in a secret way, using data hide in a image.It distorts the message itself.Cryptography scrambles a message so it cannot be understood. This web application is designed for providing security in the internal information of military. Here sender mail account and receipt account details are stored. Military is one of the important fields where the most security is needed.

First administrator has to create an account and then he can add details of departments,department head,soldiers and managing mail server. Using this email-ID, the officers at different designations can send mails to department head, officers and also to administrator.The administrator can send mails to individual officers and also can send group mails. Here, we are using algorithm RC4 for data encryption.Then hiding the encrypted text message by using an algorithm. Then we encrypt that image by using another algorithm.At the receiver the image was decrypted,then the message is extracted from the image. Then decrypt the message that in the extracted message.

**MAIN USERS:**

* Administrator
* Commander
* Soldiers

**MODULES**

* Registration
* Mailing
* Chat
* Encryption and Decryption algorithm
* Data hiding algorithm

**ADMINISTRATOR:**

The Admin can create and manage account for admin and soldiers. He can also manage mail server.He also manages

* Login
* Department details
* Designation details
* Manage soldiers
* Manage mailing system
* Manage encryption and decryption
* Generate encryption key
* Assign key to soldiers
* Manage chat
* Manage events
* Manage complaints
* Manage feedback

**COMMANDER:**

He can login to the account, manage officer details and complaints. He can communicate through messages and can generate encryption key. He manages

* Login
* Password settings
* Editing or viewing the profile
* Manage soldiers
* Communication with soldiers through mails(encrypted message)
* Communication with soldiers through chat
* Communication with administrator

**SOLDIERS:**

He can login to their own account and can communicate through messages. He can view notifications from the head and can chat between soldiers and department head.The message can be viewed using encryption key. He also manages

* Login
* Password settings
* Editing or viewing the profile
* Manage soldiers
* Communication with soldiers through mails(encrypted message)
* Communication with soldiers through chat
* Communication with head through mails and chats

**MAILING:**

In this module we can compose mails and can store messages in inbox. It also provides draft,sentmail,all-mail,trash, starred, important,user labels, label messages, search etc.

**CHAT:**

Employees can communicate with each other using chat application. The chat application can be provided between soldiers, commander and admin. Only department heads can communicate with admin.

**ENCRYPTION AND DECRYPTION ALGORITHM:**

**RC4 Algorithm**

RC4 algorithm is recognized as the most commonly utilized stream cipher in the world of cryptography. The person responsible behind the creation of RC4 is no other than Ronald Rivest of RSA Data Security Inc. Based on how it was created, RC4 had the exact function as a shared key stream cipher algorithm that entails a highly-secured transfer of a specific shared key.

The striking characteristics which made RC4 popular among the many web enthusiasts are its rate in the software as well as its simplicity.RC4 is very fast.

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| The use of RC4 |
| RC4 is used for file encryption in products such as RSA Secure PC which is a software utility that encrypts disks and files on both desktop and laptop personal computers. It is also used for secure communications, as in the encryption of traffic to and from secure web sites using the SSL (Secure Sockets Layer) Handshake Protocol which was developed by Netscape Communications Corporation to provide security and privacy over the Internet. |

Secure Sockets Layer is just one of the many accepted protocols that utilize the RC4 encryption for the purpose of ensuring a well-safeguarded Internet traffic. Another protocol that makes use of RC4 is WEP and its main reason for using this encryption is to guarantee safe wireless networks.

RC4 is a stream cipher designed by Rivest for RSA Data Security (now RSA Security). It is a variable key-size stream cipher with byte-oriented operations. The algorithm is based on the use of a random permutation.

**DATA HIDING IN IMAGE:**

In this module, we hide the encrypted text message in a image by using an algorithm. We use Diamond encoding algorithm for data hiding in image.

Diamond encoding:

A novel data hiding scheme in digital images with the diamond encoding by pixel value adjustment is proposed. The proposed method is the extension of the exploiting modification direction (EMD) embedding scheme. The diamond encoding provides an easy way to produce a more perceptible result than those yielded by simple least-significant-bit substitution methods. The embedded secret data can be extracted without the original cover image. Experimental results have demonstrated that the proposed method is capable of hiding more secret data while keeping the stego-image quality degradation imperceptible.