#### Introduction

#### Cryptography is a technique of secure communication that deals with developing and analyzing protocols capable of providing information security. It is an essential aspect of modern communication systems, providing confidentiality, integrity, and authenticity to the information transmitted over networks. In this proposal, we outline our plan to integrate advanced cryptography techniques into an email application, ensuring that user communications are secure and protected from unauthorized access.

#### Our proposed email application will use a combination of symmetric and asymmetric cryptography, as well as hash functions, to provide strong security for all email communications. In addition, we will implement authentication protocols to verify the identity of users and prevent unauthorized access to their accounts.

#### We believe that our email application, with its cryptography capabilities, will provide users with a high level of security and peace of mind when communicating online.

#### Problem Statement

Nowadays, the use of informative data is increasing day by day. Most people have little knowledge about how to protect their factual data from unauthorized users. Many people just give their credential information in open source where many user can access their data in a easy way. We want to overcome such vulnerability method in important data. We want to give access of data only to the known users. Only cryptography can protect our data from hackers or unknown users. With the help of cryptography we can securely use our password in vast network for online purchase and e-banking. Cryptography is used to secure all transmitted information in the world connected by internet. For example bank transactions wouldn’t be safe without cryptography.

Internet traffic would come to halt and use can no longer make phone calls. Without cryptography international organization cannot protect their valuable information and the information could be exposed and cause huge loss. Cryptography is one of those areas where a little knowledge goes a long way. Even understanding a few basic terms can really help you in using encryption services, and will mean that you are less likely to get ripped off by over-paid security.

Objective

* To develop a secure email application that uses cryptography techniques to protect the confidentiality, integrity, and availability of email communications.
* To design an email application that is user-friendly and easy to use, with elegant interfaces and features that make it easy for users to send and receive encrypted emails.
* To promote the need of cryptography techniques among individuals, businesses and organizations that are concerned about the security of their email communications.

Scope and Limitations

Scope

* The email application will be developed for use on desktop devices including laptops that need minimum hardware requirements.
* The email application will use advanced cryptography techniques, including
* The email application will be designed to be user-friendly and easy to use.

Limitations

Methodology