**MASINDE MULIRO UNVERSITY OF SCIENCE**

**AND TECHNOLOGY**

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**COURSE CODE: CSC 329**

**COURSE NAME: COMPUTER SCIENCE PROJECT 1**

**TASK: CONCERT PAPER**

**TITLE: EMAIL ENCRYPTION AND DECRYPTION SYSTEM**

1. **PROJECT TITLE**

**EMAIL ENCRYPTION AND DECRYPTION SYSTEM**

1. **INTRODUCTION**

Over past years insecurity of information being shared over the internet such as via emails has been a common global threat. Email encryption and decryption system is meant to curb this threat by ensuring eavesdroppers of information being shared over the internet cannot access and read the emails, cannot alter the emails in any away and can never make the emails unavailable to their recipients.

The system will ensure mails messages and their attachments confidentiality, Integrity and availability as the sender and the receiver will be communicating over a secure channel. Before sending the email the sender will convert the plain text email content into scrambled message which is unreadable text format by use of an encryption key. On reaching the receiver end the receiver will re-convert the scrambled message into normal plain text by use of a decryption key. This will ensure that only the receiver can access the email.

1. **PROBLEM STATEMENT**

Emails being send over the internet is prone to disclosure of information because they are currently being transmitted in a clear insecure channel. Many cases have been reported of confidential emails being accessed and altered by unauthorized personnels and sometimes they are never received by designated recipients. Alterations of confidential information could results into big loses of resources especially money as the enemy would resend the altered wrong information to the designated recipient for his own personal gain.

Email encryption and decryption system is meant to solve all these confusion by ensuring that the original information send cannot only be accessed by the intended recipient.

1. **SPECIFIC OBJECTVES**

* To design an email encryption and decryption system that will ensure confidentially, Integrity and Availability of emails being transmitted over the internet is maintained
* To implement the email encryption and decryption system using java and cryptography algorithms.

1. **JUSTIFICATION**

Due to the problem stated above there arises the need for an email encryption and decryption system. The system will protect email messages and attachments sent over untrusted networks. It will ­­­­ ensure that the transmitted email cannot be received by anyone else apart from the designated recipient. This will cut short the number of loses encountered due to email transmission over the insecure channel.

To get rid of loses encountered due to transmission of email messages and its attachment over untrusted network an email encryption and decryption system is required to as Confidentiality, Integrity and Availability of transmitted emails can always be maintained.