# IMPLEMENTATION OF ASCII BASED INFORMATION SECURITY TECHNIQUE FOR AUTHENTIC COMMUNICATION

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***ABSTRACT: As the use of computer and internet increase day by day most of the people addict of these services, but it is the one side of the coin. Other side is its security issues, means how to ensure people communicate securely. Secondly most of the hackers are active and try to destroy the communication intentionally .thus it makes the use of internet and computers doubtful thus the primary demand is in the field of communication is security, authorization, authentication for this purpose various type of cryptography techniques required this paper also present such type of information hiding techniques which is based on ASCII characters.***

## 1.INTRODUCTION

Cryptography born along with the art of writing. Cryptography is a combination of two words crypto and graphy. "crypto" means secret and "graphy" stands for writing. Thus it is a technique which is used for secret writing so that a particular message cannot be read by an unauthorized person [1][2]. Hieroglyph is one of the oldest techniques; 4000 years ago it was used by the Egyptians to communicate [3][4][5]. It was a secret code and only known to the scribe who transmit message on the behalf of kings. One such hieroglyph shown in figure 1.1

**Figure 1:** Hieroglyph (Source: www.tutorialspoint.com) [7]

## 2. Encryption & Decryption Process

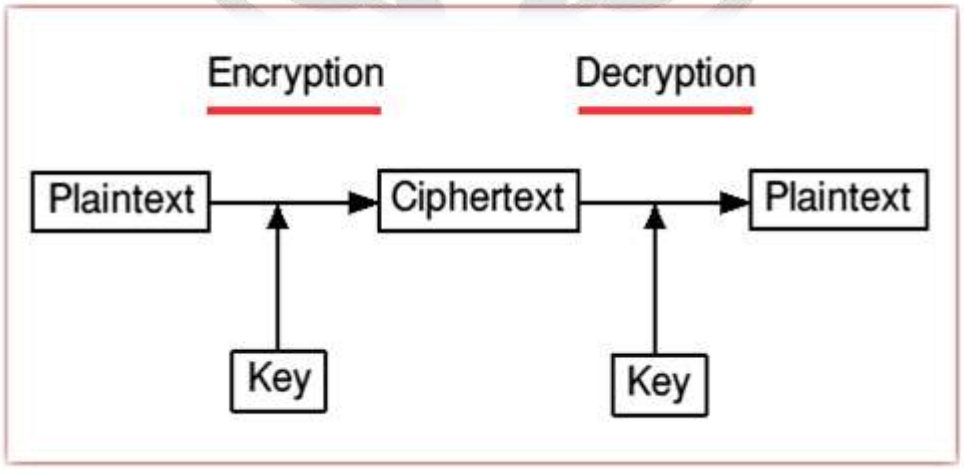


**Figure 2:** Information Hiding Process [8]

Symmetric encryption in this method for the purpose of encryption and decryption same key can be used. This key will be from plain text to encryption and then decrypted text to plan during decryption process. Asymmetric encryption in which different keys used for encryption and decryption.

### 3. Information Hiding through ASCII values and random function

Step 1
Take a input string/Plain Text

Step 2
Calculate string length =sl, sl = 86

Step 3
Apply random function (r) between (1 to 99), consider random function generates 90 then check it against the conditions.

Step 4
If value of r=sl then
ev = ASCII value of plain text +sl*2
else
r>sl OR r<sl them

ev = ASCII value of plain text + r*2
Here:
sl=String length
r=Value generated by random function
ev=value used for encryption

### 4. ENCRYPTION PROCESS

For example
Plain Text: "SONU IS NOT BAD"
This input string contains all alphabets.

| Characters | ASCII Values | Characters | ASCII Values |
|---|---|---|---|
| S | 83 | | 32 |
| O | 79 | **B** | 66 |
| N | 78 | **A** | 65 |
| U | 85 | **D** | 68 |
| | 32 | | 32 |
| I | 73 | **B** | 66 |
| S | 83 | O | 79 |
| | | Y | 89 |

**Table 1:** Encryption phase-I

Here sl=15 and value generated by random function is 9 thus as per step 4 if r>sl then
ASCII values + r used to generate the encrypted values

| Characters | ASCII Values | Encrypted Values(ev) | Encrypted Text | Characters | ASCII Values | Encrypted Values(ev) | Encrypted Text |
|---|---|---|---|---|---|---|---|
| S | 83 | 101 | e | | 32 | 50 | 2 |
| O | 79 | 97 | a | B | 66 | 84 | T |
| N | 78 | 96 | ` | A | 65 | 83 | S |
| U | 85 | 103 | g | D | 68 | 86 | V |
| | 32 | 50 | 2 | | 32 | 50 | 2 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| I | 73 | 91 | [ | B | 66 | 84 | T |
| S | 83 | 101 | e | O | 79 | 97 | a |
| | | | | Y | 89 | 107 | k |

**Table 2:** Encryption phase-II

## 5. Encrypted Text

**ea` g2[e2 T S V2 T a k**

**Figure 3:** Encrypted text

To decrypt the encrypted text same technique will be apply in the reverse order.

## 6. Conclusion

Only secure communication occur between sender and receiver is important. For this purpose many security techniques are to be required this paper also presents such security technique which can encrypt and decrypt the plain text using ASCII values with the help of random function and some numeric calculations. This is a robust technique as encryption is generated with random function which is not easy to predict in advance. Thus unpredictable encryption and decryption ensure the communication authentic and secure.

## 7. References

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