

Introduction:

The Encryption System project aims to develop a user-friendly encryption system that provides secure communication by implementing two encryption algorithms: Caesar Cipher and Arceus Encryption. The system will also incorporate user login functionality and data management capabilities, allowing users to add and retrieve data from files. This report outlines the key features and progress of the Encryption System project.

Objectives:

The primary objectives of the Encryption System project are as follows:

- Implement a user login function to ensure secure access to the system.
- Develop a Caesar Cipher encryption module for encrypting and decrypting messages.
- Design and implement the Arceus Encryption algorithm for enhanced data security.
- Provide options for both normal and brute force decryption methods in Caesar Cipher.
- Enable users to add their data to a file securely.
- Implement a feature to read user data from the file.
- Include an exit option to gracefully terminate the system.
- Conduct testing and validation to ensure the system's functionality and security.
- Prepare comprehensive documentation for users and developers.

Methodology:

The Encryption System project will follow the following methodology:

1. Caesar Cipher Encryption System.
2. Arceus Encryption System.

Caesar Cipher Encryption System:

In cryptography, a Caesar cipher, also known as Caesar's cipher, the shift cipher, Caesar's code or Caesar shift, is one of the simplest and most widely known encryption techniques. It is a type of substitution cipher in which each letter in the plaintext is replaced by a letter some fixed number of positions down the alphabet. The method is named after Julius Caesar, who used it in his private correspondence.

The encryption step performed by a Caesar cipher is often incorporated as part of more complex schemes, such as the Vigenère cipher, and still has modern application in the ROT13 system. As with all single-alphabet substitution ciphers, the Caesar cipher is easily broken and in modern practice offers essentially no communications security.

Arceus Encryption System:

It is a secret encryption system developed by Team Arceus. As we already told you this is a secret encryption system so we don't want to share how the algorithm works. It is completely effective and safe method. It is working properly. Although in this case you can try to decrypt our encryption using Google or Chat GPT, but it won't work. It is not very easy to decrypt by any method of internet or artificial intelligence or any software. If you encrypt a message from the Team Arceus system, you must decrypt it with our system. No other system can decrypt our messages. It can be used for security purposes. We will consider ourselves blessed if we can hand it over to National Administrative Security.

Requirements Gathering:

The project team will gather and analyze the requirements for the encryption system, including user login functionality, encryption algorithms, data management, and user interface specifications.

Design and Architecture:

Based on the requirements, a system design and architecture will be developed. This includes defining the software components, database schema (if required), encryption algorithms, and user interface design.

Implementation:

The encryption system will be implemented using a suitable programming language. User login functionality will be developed, allowing users to securely access the system. The Caesar Cipher encryption module will be created to encrypt and decrypt messages using both normal and brute force methods. The Arceus Encryption algorithm will be implemented for advanced data security. Data management features for adding and reading user data from files will also be developed. An option to gracefully exit the system will be implemented.

Testing and Validation:

A comprehensive testing plan will be devised to ensure the system's functionality, security, and usability.

Different test scenarios will be executed to validate the encryption and decryption processes, user login, and data management features. Performance testing will also be conducted to assess the system's efficiency and responsiveness.

Documentation:

Detailed documentation will be created, including user manuals, installation guides, and technical specifications. This documentation will assist users in understanding the system's functionalities and provide developers with information for maintenance and future enhancements.

System Features:

The Encryption System will include the following features:

User Login:

- Secure user authentication and access control.

```
WW      WW  EEEEEEEEEEE LL      CCCCCCCCCC  00000  MM      MM  EEEEEEEEEEE
WW      WW  EE          LL      CC          000  000  MMM      MMM  EE
WW      WW  EE          LL      CC          00    00  MM  MM  MM  MM  EE
WW      W  WW  EEEEEEE  LL      CC          00    00  MM   M  MM  EEEEEEE
WW  WWW  WW  EE          LL      CC          00    00  MM      MM  EE
  WWW  WWW  EE          LL      CC          000  000  MM      MM  EE
    W   W   EEEEEEEEEEE LLLLLLLLLLL CCCCCCCCCC  00000  MM      MM  EEEEEEEEEEE

User Identity:
1. Dipta
2. Imam
3. Mehedi
4. Muntasir
Choose a option: 3
Enter The 4 digit Password: 1598
Access Granted
Press Enter To Continue...
|
```


Caesar Cipher Encryption:

- Encryption of messages using the Caesar Cipher algorithm.

```
TTTTTTT EEEEEEE AAA MM MM
T E A A M M M M
T EEEEE AAAA M M M
T E A A M M
T EEEEEEE A A M M

AAA RRRR CCCCCC EEEEEEE UU UU SSSSSS
A A R R C E UU UU S
AAAAA RRRR C EEEEE UU UU SSSSSS
A A R R C E UU UU S
A A R R CCCCCC EEEEEEE UUUUU SSSSSS

Hello Everyone To My Caesar Cipher Encryption and Decryption Program.....

1. Encrypt a message
2. Decrypt a message

Choose a option: 1

Enter The Message: Hello Everyone To My Caesar Cipher Encryption and Decryption Program
Enter The Key: 1

The Encrypted Message is: Ifmmp Fwfszpf Up Nz Dbftbs Djqifs Fodszqujpo boe Efdszqujpo Qsphsbn

Press Enter To Continue...
```

- Decryption of messages using the provided key.

```
TTTTTTT EEEEEEE AAA MM MM
T E A A M M M M
T EEEEE AAAA M M M
T E A A M M
T EEEEEEE A A M M

AAA RRRR CCCCCC EEEEEEE UU UU SSSSSS
A A R R C E UU UU S
AAAAA RRRR C EEEEE UU UU SSSSSS
A A R R C E UU UU S
A A R R CCCCCC EEEEEEE UUUUU SSSSSS

Hello Everyone To My Caesar Cipher Encryption and Decryption Program.....

1. Encrypt a message
2. Decrypt a message

Choose a option: 2

Enter The Message: Jgnnq Gxgtaqpg Vq Oa Ecguct Ekrijgt Gpetarvkqp cpf Fgetarvkqp Rtqitco

1. Use Key
2. Use BruteForce

Choose a option: 1

Enter The Key: 2

The Decrypted Message Is: Hello Everyone To My Caesar Cipher Encryption and Decryption Program

Press Enter To Continue...
```

- Option for normal decryption or brute force decryption.

```
TTTTTT EEEEEE AAA MM MM
T E A A M M M M
T EEEEE AAAAA M M M
T E A A M M
T EEEEEE A A M M

AAA RRRR CCCCCC EEEEEE UU UU SSSSSS
A A R R C E UU UU S
AAAAA RRRR C EEEEE UU UU SSSSSS
A A R R C E UU UU S
A A R R CCCCCC EEEEEE UUUUU SSSSSS

Hello Everyone To My Caesar Cipher Encryption and Decryption Program....

1. Encrypt a message
2. Decrypt a message
Choose a option: 2
Enter The Message: KhooR Hyhubrqh Wr Pb Fdhvdu Flskhu Hqfubswlrq dqg Ghfubswlrq Surjudp

1. Use Key
2. Use BruteForce
Choose a option: 2

1. The Decrypted Message Is: Jgnnq Gxgtaqpg Vq Oa Ecguet Ekrijt Gpetarvkqp cpf Fgetarvkqp Rtqitco
2. The Decrypted Message Is: Ifmmp Fwfszpof Up Nz Dbftbs Djqifs Fodszqujpo boe Efdszqujpo Qsphsbn
3. The Decrypted Message Is: Hello Everyone To My Caesar Cipher Encryption and Decryption Program
4. The Decrypted Message Is: Gdtkn Dudqxnmd Sn Lx Bzdrzq Bhogdq Dmbqxoshnm zmc Cdbqxoshnm Oqnfqzl
```

Arceus Encryption:

- Development and implementation of the Arceus Encryption algorithm for enhanced data security.
- Encryption and decryption of messages using Arceus Encryption.

```

      TTTTTT  EEEEEEE  AAA  MM  MM
        T      E      A  A  M  M  M  M
        T      EEEEE  AAAAA M  M  M
        T      E      A  A  M  M
        T      EEEEEEE A  A  M  M

      AAA  RRRR  CCCCCC EEEEEEE UU  UU SSSSSS
A  A  R  R  C      E      UU  UU S
AAAAA RRRR  C      EEEEE  UU  UU SSSSSS
A  A  R  R  C      E      UU  UU S
A  A  R  R  CCCCCC EEEEEEE UUUUU SSSSSS

Hello Everyone Welcome To Our Arceus Encryption and Decryption Program.....

1. Encrypt a message
2. Decrypt a message
Choose a option: 1
Enter The Message: Team Arceus
The Encrypted Message: Xnev$Jvli~w0
Press Enter To Continue...
```

Data Management:

- Adding user data to a file securely.

```

      TTTTTT      EEEEEEE      AAA      MM      MM
      T           E           A  A      M M M M
      T           EEEEE      AAAAA      M  M  M
      T           E           A  A      M    M
      T           EEEEEEE     A  A      M    M

      AAA      RRRR      CCCCCC      EEEEEEE      UU      UU      SSSSSSS
      A  A      R  R      C           E           UU      UU      S
      AAAAA      RRRR      C           EEEEE      UU      UU      SSSSSSS
      A  A      R  R      C           E           UU      UU      S
      A  A      R  R      CCCCCC      EEEEEEE      UUUUU      SSSSSSS

Total user: 4
Enter Name: Dipta
Enter ID: C231269
Enter Section: 1GM
Enter Number: 1596
Enter Name: Imam
Enter ID: C231259
Enter Section: 1GM
Enter Number: 6432
Enter Name: Mehedi
Enter ID: C231271
Enter Section: 1GM
Enter Number: 1598
Enter Name: Muntasir
Enter ID: C231266
Enter Section: 1GM
Enter Number: 1236

Data Added Successfull

Press Enter To Continue...
```

- Reading user data from the file.

```

      TTTTTT  EEEEEEE  AAA  MM  MM
      T      E      A  A  M  M  M
      T      EEEEE  AAAAA  M  M  M
      T      E      A  A  M      M
      T      EEEEEEE A  A  M      M

      AAA  RRRR  CCCCCC  EEEEEEE  UU  UU  SSSSSS
      A  A  R  R  C      E      UU  UU  S
      AAAAA RRRR  C      EEEEE  UU  UU  SSSSSS
      A  A  R  R  C      E      UU  UU  S
      A  A  R  R  CCCCCC EEEEEEE UUUUU  SSSSSS

Member 1:

Name: Dipta Dhor
ID: C231269
Section: 1GM
Mobile Number: 01840929655

Member 2:

Name: Imam Hossain
ID: C231259
Section: 1GM
Mobile Number: 01867105020
```

System Exit:

- Graceful termination of the encryption system.

User Interface:

The Encryption System will have a user-friendly command-line interface (CLI) to interact with users. The interface will provide the following options after successful login:

1. Caesar Cipher Encryption.
2. Arceus Encryption.
3. Add user data to a file.
4. Read user data from a file.
5. Exit.

```

      TTTTTT  EEEEEEE  AAA  MM  MM
      T      E      A  A  M  M  M
      T      EEEEE  AAAAA  M  M  M
      T      E      A  A  M  M
      T      EEEEEE A  A  M  M

      AAA  RRRR  CCCCCC  EEEEEEE  UU  UU  SSSSSS
      A  A  R  R  C      E      UU  UU  S
      AAAAA RRRR  C      EEEEE  UU  UU  SSSSSS
      A  A  R  R  C      E      UU  UU  S
      A  A  R  R  CCCCCC EEEEEEE UUUUU  SSSSSS

In our program, we added two types of encryption system. Which one you like to choose?

1. Caesar Cipher Encryption
2. Arceus Encryption
3. Add User Data
4. Read User Data
5. Exit

Choose a option: 1|
```

Conclusion:

The Encryption System project aims to develop a secure and user-friendly encryption system. By implementing user login functionality, two encryption algorithms (Caesar Cipher and Arceus Encryption), and data management features, the system will provide a comprehensive solution for secure communication. Through thorough testing and detailed documentation, the Encryption System will meet the highest standards of functionality, security, and usability.

