**Cyphering System**

**Team Code: S008**

**:Members:**

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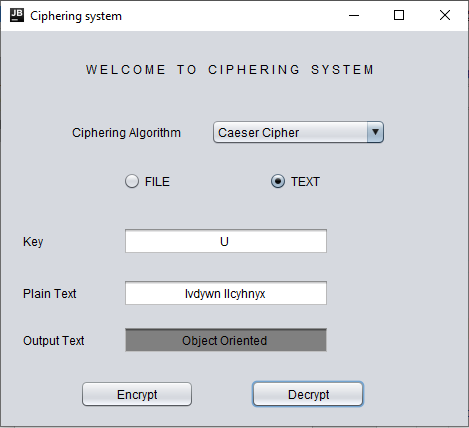
1. **Caesar cipher:**

.Text encryption:

A screenshot of a cell phone

Description automatically generated

.Text Decryption:



1. **Playfair Cipher:**

.Text decryption:

A screenshot of a cell phone

Description automatically generated

.Text encryption:

A screenshot of a cell phone

Description automatically generated

**Note:** The character table in Playfair has been modified to be 9x9, to handle both lower and upper case characters and some special characters.

1. **Vigenere Repeating key**:

.Text encryption:

A screenshot of a cell phone

Description automatically generated

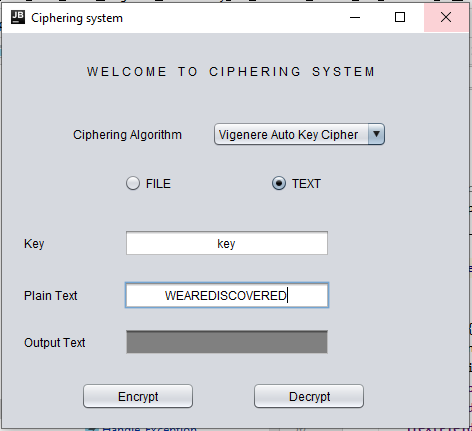
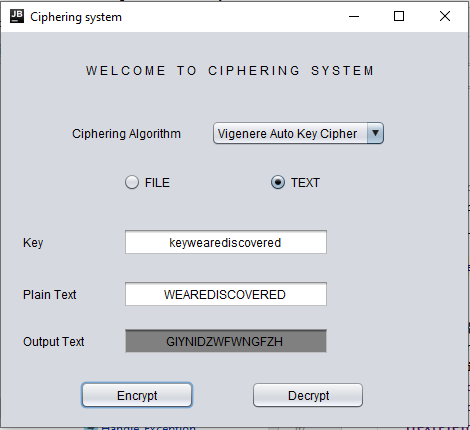
.Text decryption:

A screenshot of a cell phone

Description automatically generated

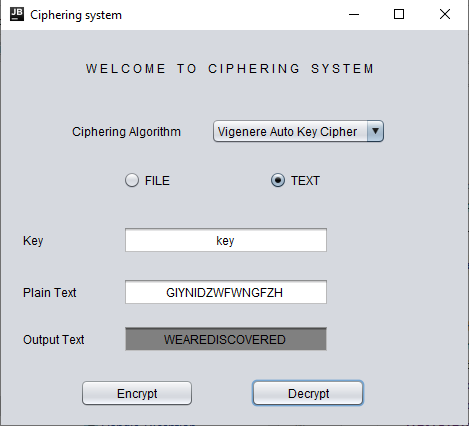
1. **Vigenere Auto key:**

. Text encryption:

.Before Pressing Encryption .After Pressing Encryption

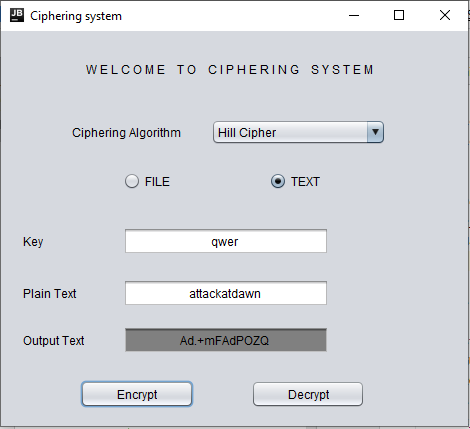
**Note:**  After pressing encrypt the key textbox will show the new generated key (Given Key + Plain Text).

. Text Decryption:

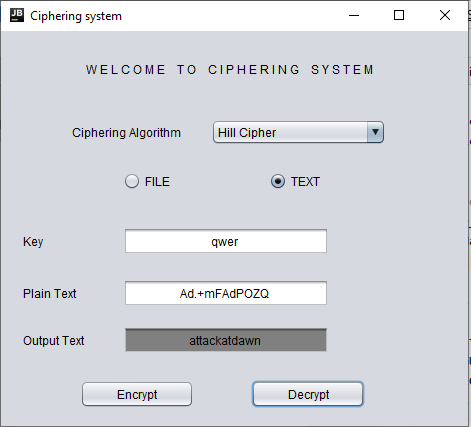


1. **Hill Cipher:**

. Text Encryption:

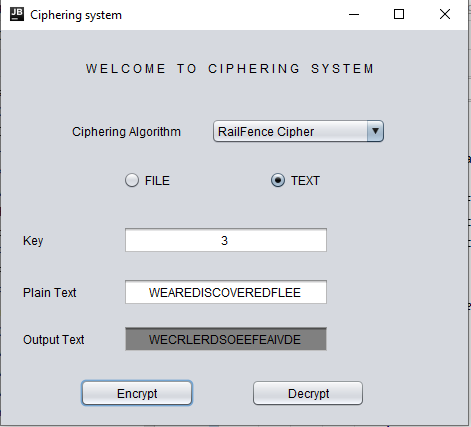


. Text Decryption:

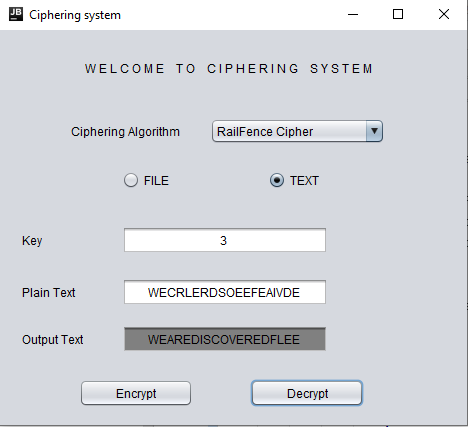


1. **Rail Fence:**

. Text Encryption:



. Text Decryption:

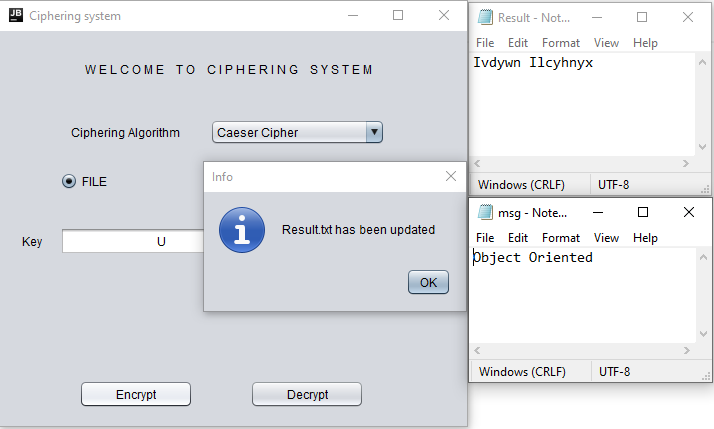


**Read/Write file handling:**

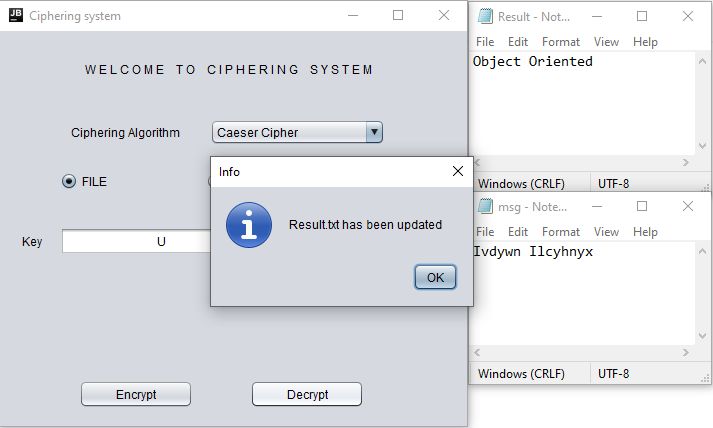
A screenshot of a social media post

Description automatically generated

.text file encryption:



.text file decryption:



**Note:** The encrypted/decrypted text will be saved in a text file named “Result.txt”, saved in the project folder.

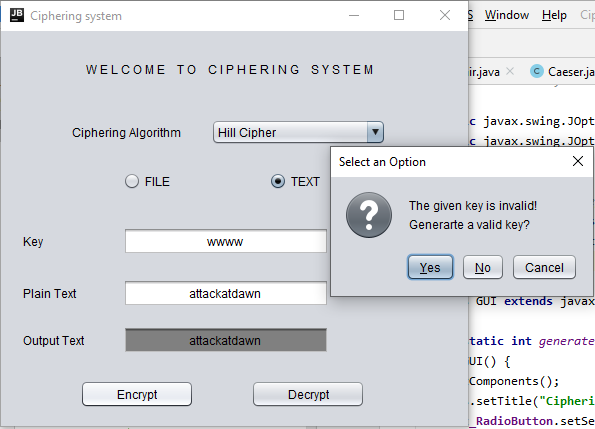
**Exception Handling:**

Exception will be thrown (In Any Chosen Cipher System) if the Encrypt/Decrypt button is pressed while there is missing info like key and plain text.

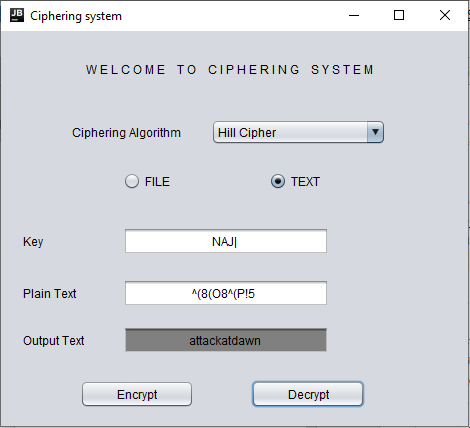
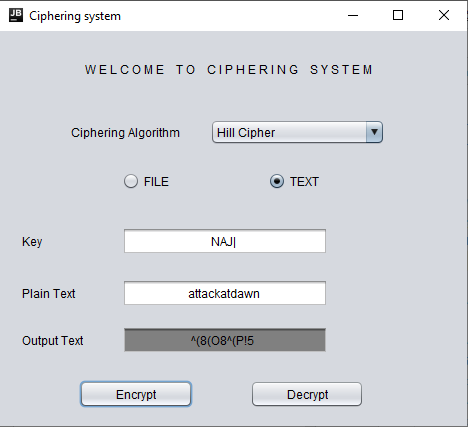
A screenshot of a cell phone

Description automatically generated

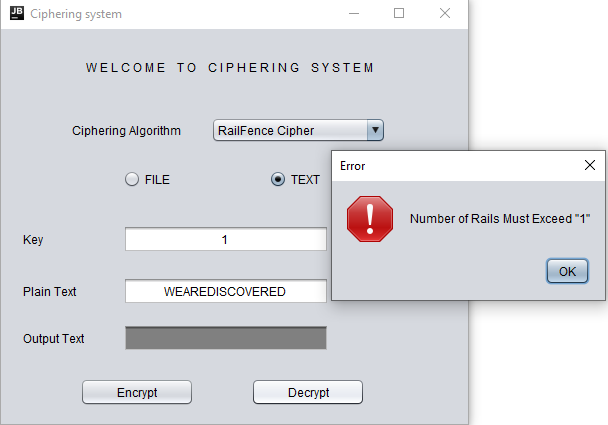
**General Note:** If no key is given or an invalid key was given (in Case of all ciphers except for Rail fence) the user will choose between generating a valid key or entering a valid key, but during decryption a valid key must be provided otherwise an error message will be displayed.



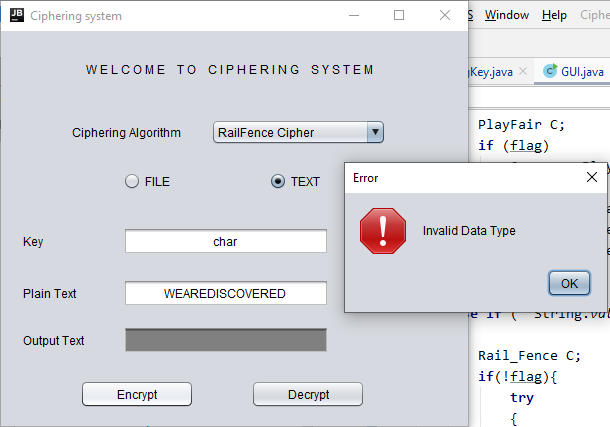
-Valid key generation + Encryption. -Decryption using the gen. valid key.



-In Rail Fence Cipher, Exception will be thrown if the Number of Rails (Key) is less than 2.



-In Rail Fence Cipher, Exception will be thrown if the Number of Rails (Key) isn’t a Number.



In Hill cipher, Exception will be thrown if the length of the key isn’t equal to 4.

