NEA Objectives

Windows Form UI

1. Uses windows forms for application
2. Has a minimum & maximum window size
3. Displays a status for current decryption method (not tried yet, in progress, failed, succeeded)
4. Only accepts strings for the decryption input
5. Rejects blank inputs
6. Can successfully apply all decryption methods **(see Decryption Methods)**
7. Greys out input box while program is being processed
8. Displays a cancel button while input is being processed to stop the processing and return to idle state
9. Displays whether it thinks the text has been successfully decrypted or not
10. Displays percentage of recognized words
11. Has a menu with help/info pages
12. Help page details functionality of the application
13. Info pages details the cipher methods

Dictionaries/Word Library

1. Words can be added/removed
2. Strings from the decrypted text can be checked against the word library to see if they are words
3. If enough of the decrypted text is recognized words, the decrypted text is marked as successfully decrypted
4. If the text has been successfully decrypted, any unrecognized strings will be searched on the collins dictionary website to see if they are also words, in which case they will be added to the words list
5. Words list can be reset to the most common 2 thousand words to stop the file continuously growing
6. Dictionary can be sorted by word length and date added and alphabetical order

Decryption Methods

1. Caesar Cipher
2. Kama Cipher
3. Vigenere cipher
4. ADFGVX cipher
5. Playfair cipher
6. Rail fence cipher (zigzag cipher)
7. Scytale
8. Route cipher
9. Columnar transposition
10. Frequency analysis

Input Options

1. Input options for cipher text
2. input ciphers to try
3. input known letter combinations, or known chunks of plain text
4. Input whether to ignore capital letters/ remove punctuation