

Assignment 2 Design

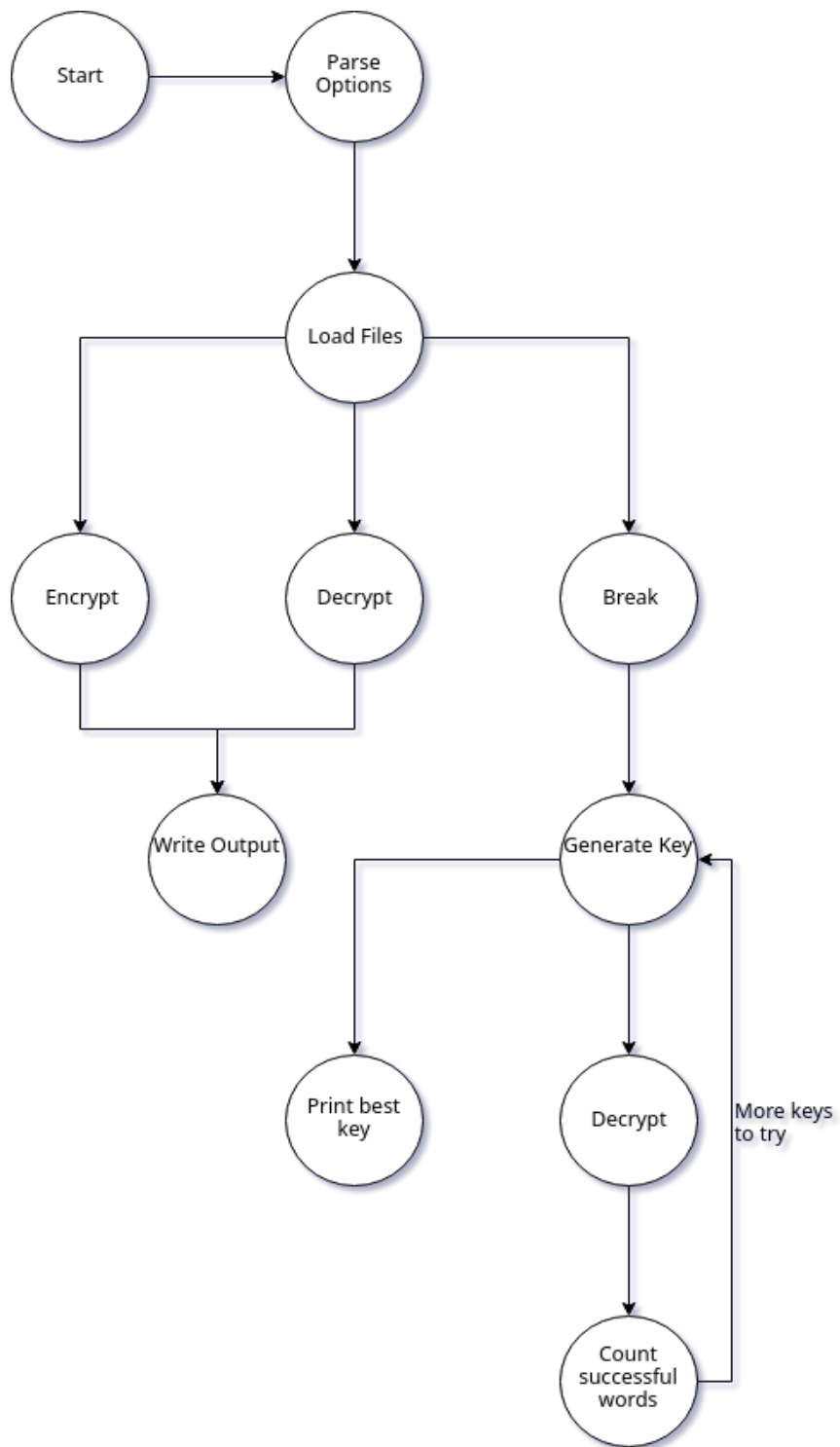
Isaac Morneau; A00958405

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Features

- Multithreaded
- Encrypts decrypts and breaks
- Heuristics to reduce total checks to speed up breaking

FSM



Pseudocode

Parse Options

Ensure options are present
Goto **Load files**

Load Files

For each file in the options
 load the file into ram
Go to selected mode from **Encrypt**, **Decrypt**, or **Break**

Encrypt

Use the provided encryption function to encipher the lines
Goto **Write output**

Decrypt

Use the provided decryption function to decipher the lines
If in decryption mode goto **Write output**
If in break mode goto **Count successful words**

Write Output

Write the converted file data to the specified option
exit

Break

Parse the word list
setup multithreading
Goto **Generate key**

Generate Key

If there are more keys before the length is reached
 Generate the next key in the sequence
 Goto **decrypt**
Otherwise
 Goto **Print best key**

Count successful words

Check for how many words were discovered

Score that key length with how many were found

Goto **Generate key**

Print best key

Print the key length with the highest word score

exit