# CIS7 Project Documentation Guide

In the documentation, provide at least 2 pages (single-space) that contains the following components of your course project:

1. Team name: The A Team

Members: Elijah Benson, Nestor Garcia

1. Project Information and details: (30 points)

* What problems are you solving in this project?

Identifying what Vigenere Cipher is and how it works with the keyword AYUSH.

* What solutions are you implementing in the project?

USING AYUSH in our code to decrypt the encrypted message in Vingenere Cipher

* Provide explanation of calculations and algorithm implementation.

In the program we start with a key like we did in lab to designate a placeholder.

Screen of a cell phone

Description automatically generated

then we have code in the

A picture containing monitor, screen, sitting, television

Description automatically generated

cpp that encrypts your message using Vingenere Cipher that can be decrypted with a

keyword of AYUSH.

Then we also have parameters set in place to actually decrypt the message using AYUSH

Screen of a cell phone

Description automatically generated

* What is the program objectives? Explain how your program is interacting with the user and its purpose. In the program We have the user input some type of text then we ask for a keyword to decrypt his text. Wrong keyword, wrong decryption.
* How is discrete structures implemented in the C++ program?

We have some background in CIS 17A with the combination of CIS7 we have compiled a program that is a masterpiece. Our first algorithmic program that uses keys, encryption and decryption functions to encode strings.

* What are the limitations of the program?

One main limitation is you cannot use numbers as the Vingenere Cipher is based on an alphabet. So you cannot use any form of numbers in your program of encryption. Another limitation is you cannot add spaces in your text as we didn’t add parameters to Another issue we encountered is the text has to be longer than the keyword to actually operate.

* Provide recommendation on improving the limitations of the program.

One main limitation I’m not even sure how to fix is the space problem in our program. With one quick google search you can use

A screenshot of a cell phone

Description automatically generated

I’m not sure how to implement but I have some theories.

1. Flowchart AND Pseudocode. (30 points)

* Write the pseudocode for the program, from start to finish. Be sure to include decision-making branching.
* Encryption pseudocode:  
    
  encrypted text = empty string  
  foreach char t in text and char k in key:  
  --let c = (t+k) mod 26  
  --append to c encrypted  
  return encrypted text  
    
    
  Decryption pseudocode:  
    
  plain text = empty string  
  foreach char e in encrypted text and char k in key:  
  --let t = (e - k + 26) mod 26  
  --append t to plain text  
  return plain text
* Use standard shapes for flowchart, be sure to include decision-making branching.A close up of a map

  Description automatically generated