

# **Project report**

**Project Name:** Encryption & Decryption System

**Team Members:**

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## **Introduction:**

Data encryption translates data into another form, or code, so that only people with access to a secret key or password can read it. Encrypted data is commonly referred to as ciphertext, while unencrypted data is called plaintext.

About 1900 BC An Egyptian scribe used non-standard hieroglyphs in an inscription. Kahn lists this as the first documented example of encryption or written cryptography.

Two main types of data encryption exist:

- Asymmetric encryption
- Symmetric encryption.

Our project based on Symmetric encryption method.

## **Objective:**

Encryption helps to you protect the privacy of your messages, documents and sensitive files. In its earliest form, people have been attempting to conceal certain information that they wanted to keep to their own possession by substituting parts of the information with symbols, numbers and pictures. For different reason humans have been interested in protecting their messages.

Currently, encryption is one of the most popular and effective data security methods used by organizations.

## **Back-End Work:**

We have been working on Python at the back-end of our project. We used python cryptography package. Cryptography is the practice of securing useful information while transmitting from one computer to another or storing data on a computer. Cryptography deals with the encryption of plaintext into ciphertext and decryption of ciphertext into plaintext. Python supports a cryptography package that helps us encrypt and decrypt data. The fernet module of the cryptography package has inbuilt functions for the generation of the key, encryption of plaintext into ciphertext, and decryption of ciphertext into plaintext using the encrypt and

decrypt methods respectively. The fernet module guarantees that data encrypted using it cannot be further manipulated or read without the key.

### **Front-End Work:**

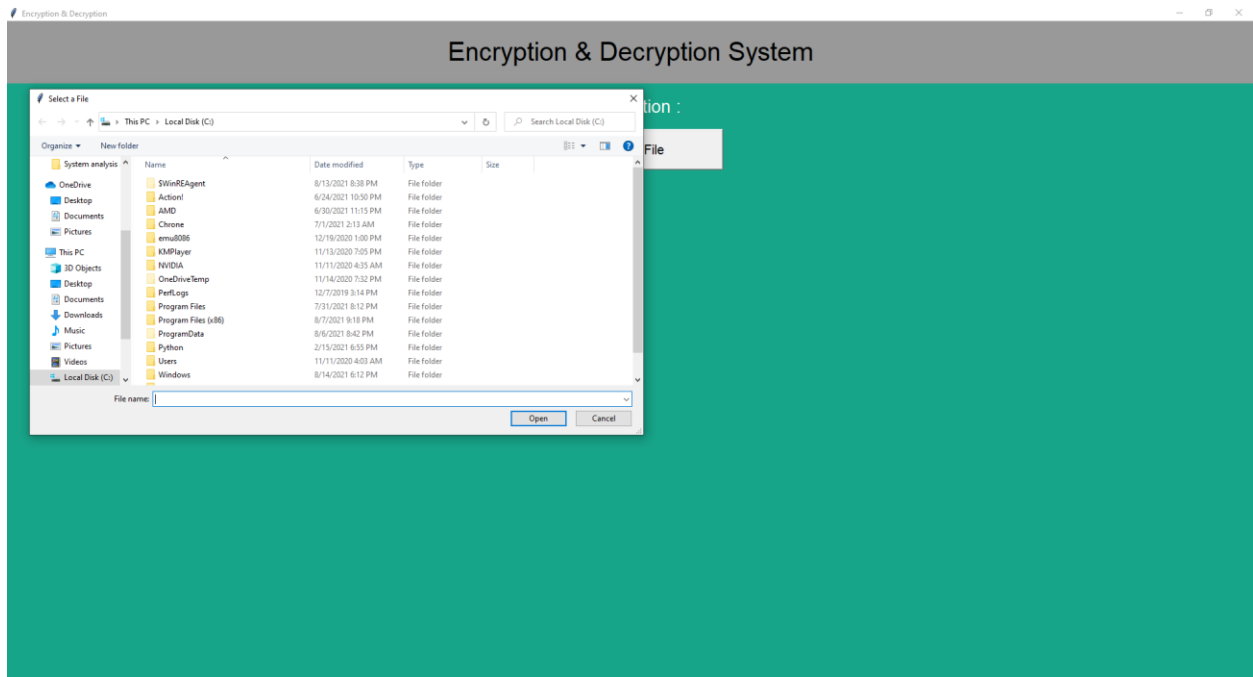
We used Tkinter for making a graphical user interface. It takes our project to a standard level. It is a built-in package in python v3.9. Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications.

### **Some Output of our Project:**

First Interface:



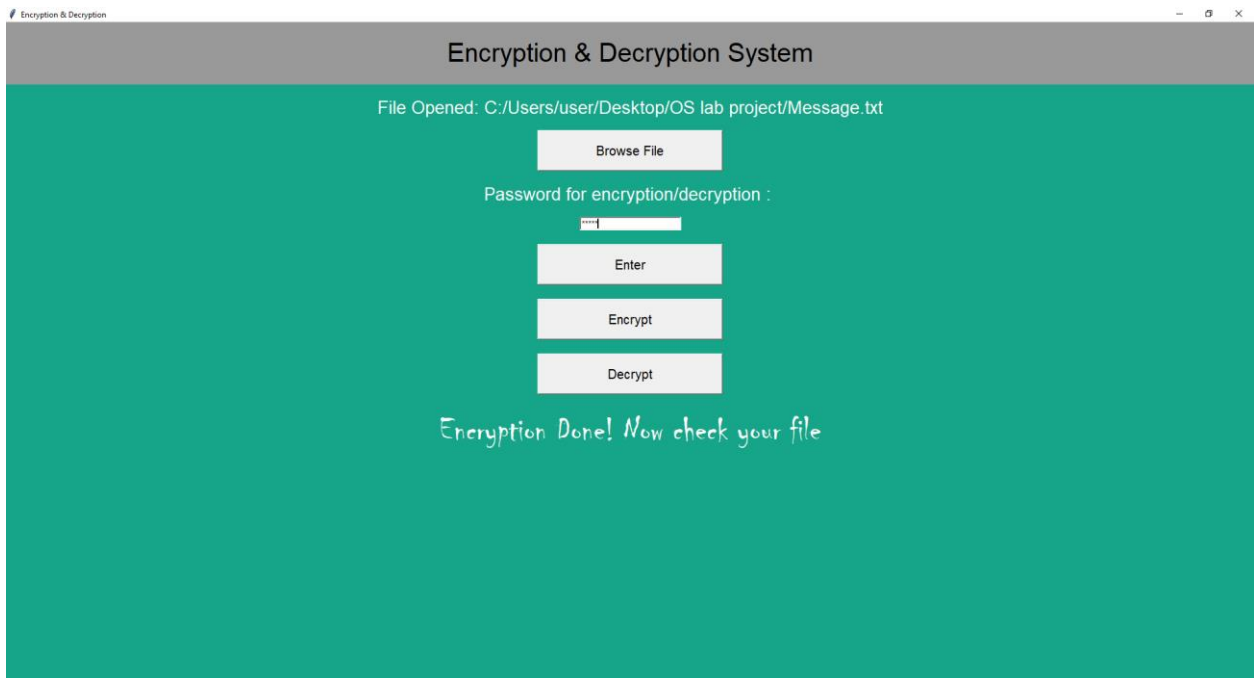
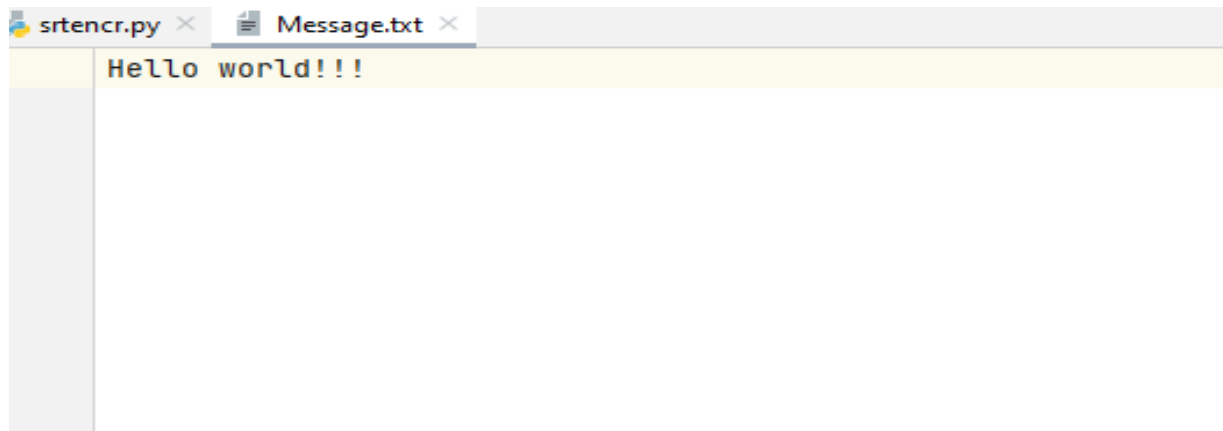
Select a file:



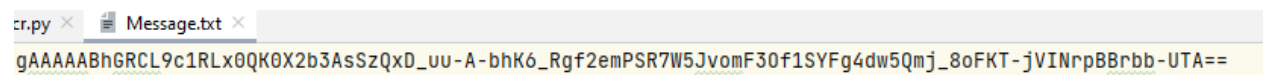
Give a password:



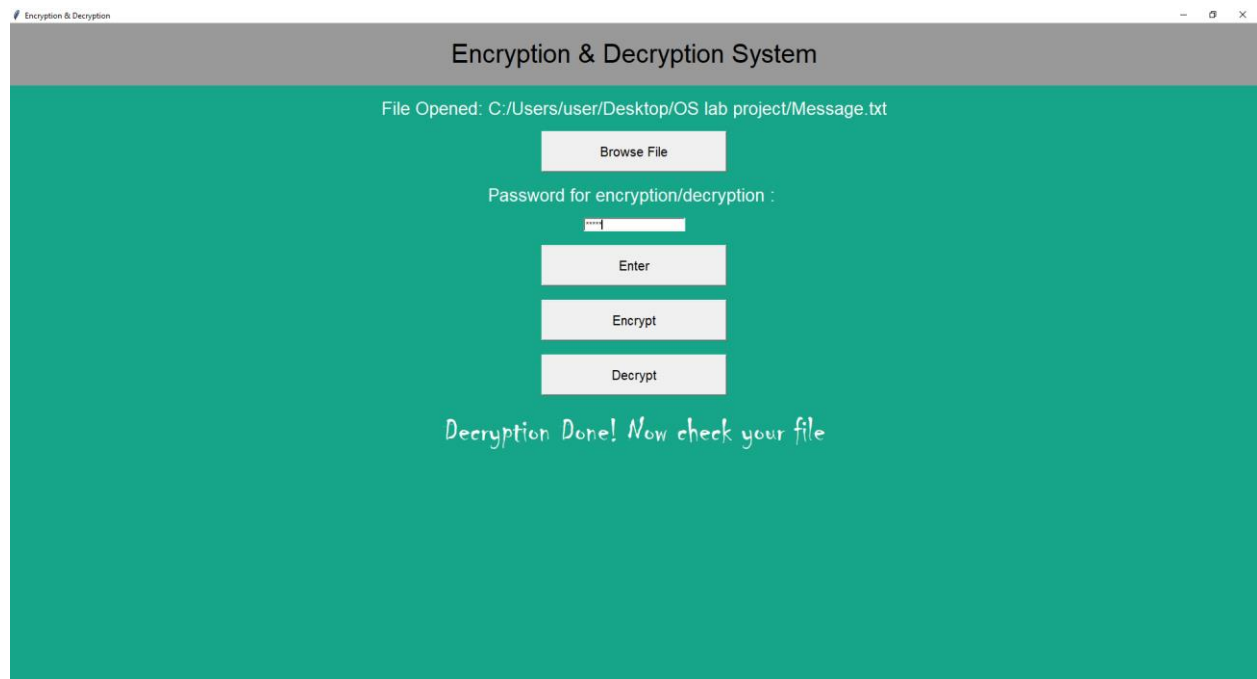
Before encryption:



After encryption:



Click decryption with given right password:



After decryption:



**Conclusion:**

In our project, we used cryptography package in python. We also used fernet module to encrypt our data. We make our interface with Tkinter GUI. It takes user password to encrypt or decrypt a file. Only given right password by user it will work. In our system we encrypt any kind of file such as Audio, Video, Text file, Word, PPT an so on which is very helpful for user. You don't need to switch other software to encrypt audio or video file. Our system is very lite weight. Security is the main factor that is considered everywhere. So, our Encryption & Decryption system will help in providing security, integrity, confidentiality and authentication while transferring a message.