

Encryption Key

THIRD SEMESTER -2023
CYBER SECURITY
GROUP: FOUR

Edit by:

* Abdullah Alsalem * Habeeb Almarai
* Hamad Altawab * Naif Alsubaie

<https://encryption-key.netlify.app>



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Introduction

It is no secret that encryption is important in protecting data from intrusion or unauthorized access. In this presentation, we will focus on the steps we have taken to create a site and its importance in helping to understand the science of encryption.



Project Overview

- Encryption key platform is a free platform concerned with teaching the method of encryption and decryption for many old and new Ciphers.
- what distinguishes this platform is that it works in both Arabic and English and shortens a lot of the learner's time in terms of research and investigation in the required code.
- We aspire that the platform will be a destination for everyone interested in learning cryptography, including students and trainers.



Problem Statement

- The problem lies in the absence of the educational curriculum, especially the Arabic ones, and the training platform in one place.
- The lack of a detailed explanation of the encryption and decryption process, which makes it difficult to understand the encryption



How You Are Going To Address The Problem?

- We will seek as a group to provide globally approved sources that deal with cryptography in one platform, this platform will support Arabic and English languages.
- We believe that the platform will help students in facilitating the understanding and study of cryptography.



Project Impact



Encryption Teachers

Students

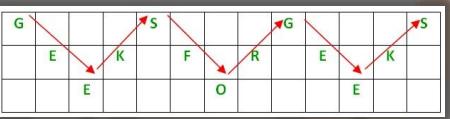


Project Scope

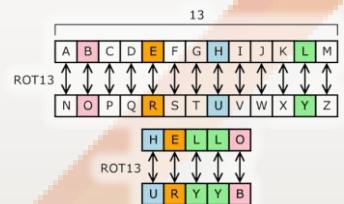
The platform will include encryption, decryption, and a tutorial for the following cipher:



Caesar Cipher



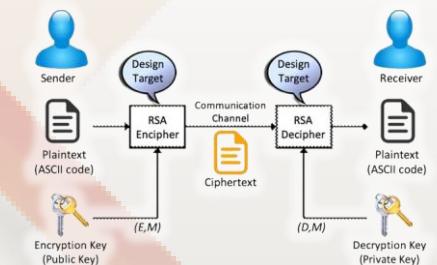
Rail Fence Cipher



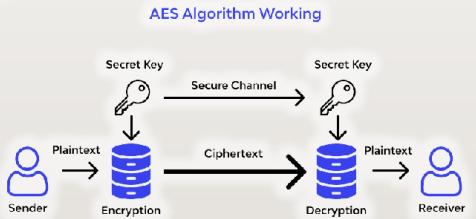
Mono-alphabetic Cipher

P	L	A	Y	F
I	R	E	X	M
B	C	D	G	H
K	N	O	Q	S
T	U	V	W	Z

Playfair Cipher



RSA Algorithm



AES Algorithm



Things That Are Outside The Limits Of The Project:

- The platform will not have a mobile application.
- Support languages other than Arabic and English.



Aims And Objectives

- Enables students of cryptography to obtain information in an easy way with the possibility of practical application.
- Collect educational content for many ciphers on one site.



Existing Solutions And Their Limitations



EDUCBA



PLANETCALC

MYMATHTABLES

THEIR LIMITATIONS

- Their sites do not support the Arabic language.
- Their sites are general for all calculators while ours is for ciphers.
- There are no details of the encryption and decryption processes at other sites.



Suggested Solution To Address The Issue

- The platform will support both Arabic and English languages
- It will be for cryptography only
- There will be a detailed explanation of the encryption and decryption processes
- We will provide a tutorial for all existing ciphers



Planning

- Creating an encryption site requires careful planning and execution.
- It is important to consider the purpose of the site, the target audience.
- Determine the ciphers that will be worked on



Analysis

- We must provide the work requirements of hardware and software necessary to create a cryptography site, which are as follows:
- Functional Requirements:
- Netlify is a platform for web developers to host their sites in the cloud without managing any servers





Analysis

Non-Functional Requirements :

- Tools used



- Programming Languages:



- Frameworks



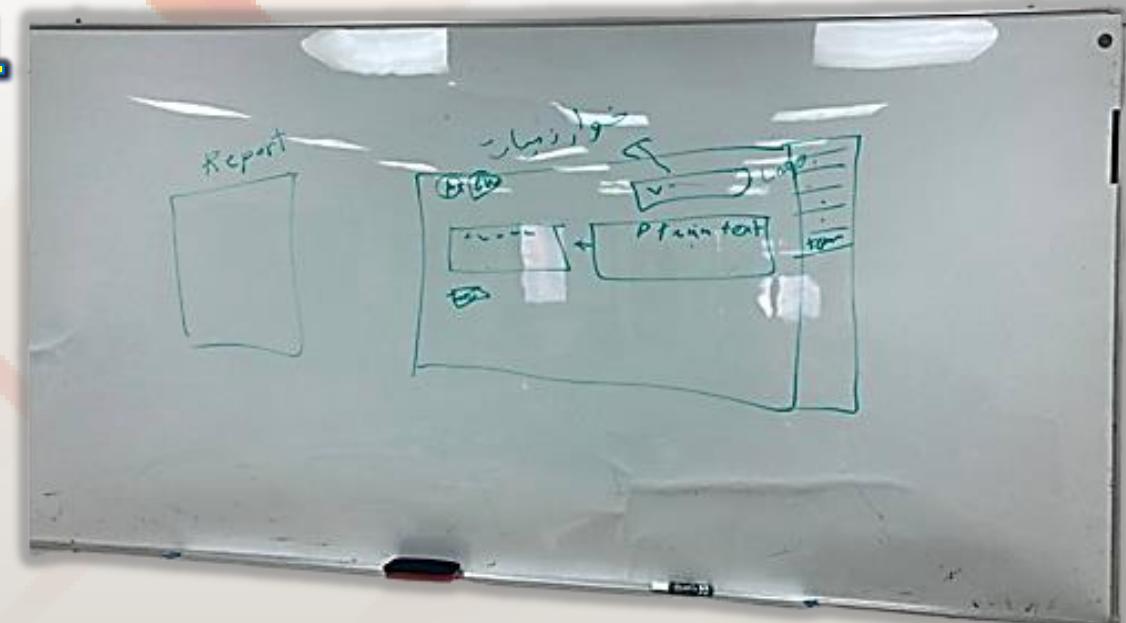
- Databases:





Designing

- Under design phase all technical design packages and drawings were submitted. Furthermore, all installation phases will be tested and approved prior to going to the next level.





Implementing

- At this stage, the platform codes will be implemented, starting with the main interface, the main menu, and the list of ciphers, and they will be discussed in detail.



Testing

To conduct an examination of the site in order to ensure that it works well, we must do the following:

- This includes performance and compatibility across different devices and browsers.
- Performance testing involves measuring the speed and responsiveness of the website.
- To conduct these tests, a variety of tools and techniques can be used, including automated testing software, manual testing by human testers, and user feedback surveys



Maintenance

- Here, things that have not been completed will be listed and worked on in the future.
- And we will constantly monitor the site to ensure that it works well at all times



Conclusion

We aspire for our platform to be an essential tool in the modern digital world, as it will help teach society how to work with the most famous cipher, protect sensitive data and information, preserve users' privacy, and protect against hacking and electronic intrusions.