

# Cipher Coursework Report

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## 1 Introduction

The aim of this Coursework Assignment was to design and implement a website that included pages that showcased classical ciphers, using the practical skills that I have gained over the weeks of class. The Ciphers I have decided to use in my assignment are the Caesar Cipher after some reading up on its function and a Reversible Cipher. I implemented these Ciphers using Javascript and Sublime Text. I went with these Ciphers as I wanted to stick to one style of Cipher and not confuse the user.

## 2 Software Design

Design:

Before I started to actually begin the coding of the Website I decided to draw up a basic layout on paper to get a feel for what I would be designing.

HTML:

For the overall layout of my website I kept it fairly simple with only a small number of items on screen at any one time to keep my site from becoming cluttered. I kept the Links to other Ciphers at the top of the page to give it a familiar feel to a normal website.

CSS:

I used the Colors.co website to come up with a pleasing colour scheme and ended up going for a dark blue background with bright blue text. I kept the hyperlinks a silvery white to ensure they stuck out and were easy to navigate to. After deciding a Colour Scheme I decided to add in a footer with a copyright symbol to ensure it was going for a professional look. I also ensure that any columns that included description were fixed to the left side of the screen.

JS:

For the Caesar Cipher I made use of the ROT13 Cipher from the Week 5 Practical to get me started and added the ability to decipher any encrypted messages and the user can decide on the number of shifts they wish to use for this Cipher.

The Second Cipher is the Reverse Cipher which flips the alphabet and changes the letter to its corresponding letter i.e (A = Z, B = Y). I implemented this by adding a second alphabet array from Z-A which will replace the letter with its counterpart in the reverse array unlike the Caesar Cipher which will add the number of shifts.

## 3 Implementation

The Implementation of the site is fairly straightforward with a text area for user input of messages to be hidden and the ability to Encrypt and Decrypt below which keeps all of the relevant information in one area.

## 4 Critical Evaluation

In the Specification it states that the coursework requires two Ciphers which can be encoded and decoded. I have achieved this in my work however I do feel that the Ciphers I have implemented are fairly basic and I relied heavily on the Week 5 Practical to keep me on track. I feel the site could be improved with the addition of more complex Ciphers and a "prettier design". For the future coursework I will be striving to go for my very best.

## 5 Personal Evaluation

After completing this Coursework I do believe my skills have progressed and I have become very interested in the Design aspect of such websites. I did face a few challenges however:

A misspelling of length that did not show an error in Google Chrome led to much stress and took me a long time to realize the error. After speaking to a friend he recommended that I sit with a stuffed toy or something similar as most programmers keep a duck for when they get stuck and explain my entire code to it step by step. After walking my flatmate through my work who has no concept of programming I was able to spot my error and solve it.

I do think that overall my Coursework feels rushed. Due to a situation at home I have been back and forth from the Hospital and feel I haven't fully applied myself to this task. As I was doing some of this work in the hospital it didn't have my complete attention and work ethic which has led to some slight self disappointment. However I feel I have learned from this situation to not hesitate when thinking of going to ask for help.

## References

<http://northofsepo.wikidot.com/activity:reverse-cipher>  
<https://www.youtube.com/watch?v=3JluqTojuMElst=PLoYcGNOlyC>

//[www.docs.is.ed.ac.uk/skills/documents/3722/3722-2014.pdf](http://www.docs.is.ed.ac.uk/skills/documents/3722/3722-2014.pdf)