

Criterion A Planning:

Description of Scenario:

My client is Janlloyd Carangan, a freshman student interested encryption as well as computer programming. My advisor is Mr. Alcorn my IB Computer Science teacher. He is also a math teacher and that is his primary profession. My client was chosen due to his interest in encryption which I recognized as a potential field in which I can develop a program that can take advantage of my current development of programming skills.

Rationale for the Proposed Product:

A problem the client presented me is that he finds it very inefficient and time-consuming to handwrite, encrypt, and decrypt all of his codes. He also finds that sometime throughout the encryption process he makes mistakes. Therefore, the program I am creating will hopefully fix inefficiencies during the encryption process, eliminate the time-consuming process of rewriting the code due to human error, and provide a method of encrypting and decrypting messages without the use of having to handwrite the whole process. The client has also informed me that he finds it very unbearable to have to memorize a variety of different types of encryption processes, and would like me to create a set amount of methods that he uses very often to which he can choose from instead of trying to recall how to encrypt using a certain method.

I have considered that this program will be somewhat difficult to develop due to the complexity of writing algorithms for cryptography as well as integrating these methods into a presentable interface. The program is intended only for my client; therefore, I am considering implementing a login in order to keep his encryption methods safe. The methods will also be fairly accessible due to the fact that I am using Java as my language of choice, and Java is a multiplatform programming language. The reason for my choosing of Java as my language is due to the fact that it has a legible and understandable syntax, has a large amount of documentation, and has numerous amounts of powerful development tools. The hardware I will use to develop this program is a custom built computer with an Intel i7 processor and 8GB of RAM. I will be using two IDEs (integrated development environment): NetBeans version 8.1 and BlueJ version 3.1.5. The reason I intend to use two IDEs is to increase the fluidity of my development. I am going to use BlueJ to test and develop the methods for encryption and decryption. The reason I chose to use BlueJ for this section of development is due to my experience of its fluidity and its compiler's responsiveness. I can then convert (and integrate) those methods into a GUI (graphical user interface) using NetBeans' form creator which allows me to save time "hard-coding" my GUI. I am approximating that this project will take approximately four to five months and will not cost a single cent.

Success Criteria for the Product:

- A personal login
- 3-6 types of encryptions listed on a drop-down menu from which to choose from
- An option for encrypting and decrypting
- A textbox which to enter the message in order to be encrypted or decrypted
- A textbox to display the message either encrypted or decrypted successfully
- A neat and presentable GUI