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Software Development 1 – 111

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<p align="center">File Encryption Application</p>

When learning to program the practice that was stressed to me the most was the protection of data. The idea that data protection is what allows industries like banking and security to run made me learn to code with extreme attention to the transferring of protected data even on small scale programs.

With that in mind and my interest for cyber security, my proposal for my software development project is a file encryption application use to encrypt and decrypt data. The specifications of the project are that I am going to write, from scratch, a symmetrical encryption algorithm meaning the generated or picked key is the same for both encryption or decryption. The end result, is that a user would be able to encrypt a text file or potentially a picture to be able to share information securely. The user would be allowed to select a file path and then retrieve their now encrypted file after the application implements some kind basic encryption technique like XOR that secures the information. The user would also be able to pick their key or generate a random key to encrypt and decrypt.

Apart from the encryption engine utilized in the application, the application should also have a graphic user interface for ease of use. The interface would be created with already existing java libraries like Jframe and action listener. The interface will allow the user to enter in a file path or potentially use their file explorer to select a file and then have a place to either prompt or generate the encryption key. Then the user will have action options to encrypt or

decrypt the file.  I would also like to implement some kind of progress bar or timer to track the progress or efficiency of the algorithm and system. With the combination of the engine and the user interface this will hopefully be a robust application.