Project Plan In Depth (Encryption Network Chat Log)

Class Subjects: Cryptographic Tools and Access Control

Justin – GUI/File system

Week 1

- Research GUI principles and frameworks: Explore design concepts and libraries for creating user interfaces. (2 hours)

- Design GUI layout: Sketch out the structure and components of the graphical interface. (2 hours)

- Begin GUI implementation: Start coding the user interface based on the design plan. (6 hours)

Week 2

- Research file handling and network storage: Looking for methods for managing files over a network. (3 hours)

- File handling logic: Start coding the functions for storing and retrieving messages. (5 hours)

Week 3

- Integrate file handling with GUI: Combine the file operations with the graphical interface. (4 hours)

- Implement access control: Add security measures to control user access to files. (4 hours)

Week 4

- Integrate file handling with GUI: Combine the file operations with the graphical interface. (2 hours)

- Implement access control: Add security measures to control user access to files. (2 hours)

Noah – Encryption methods/libraries

Week 1

- Research encryption algorithms: Understand the principles and methods of 3DES, DES, AES (2 hours)

- Start Coding w/ libraries: Utilize libraries to implement the DES and 3DES encryption methods (4 hours)

Week 2

- Test and Debug: Test and Debug DES and 3DES to verify the functionality (2 hour)

- Start Coding w/ libraries: Utilize libraries to implement the AES encryption methods (4 hours)

Week 3

- Test and Debug: Test and Debug AES to verify the functionality (2 hour)
- Start Decryption Functions: Functionality should be able to decrypt any message in theory, however should display correct message when the correct decryption methods is selected in the GUI (4 hours)

Week 4

- Being integration into GUI: Taking these functions and linking them to the correct buttons (4 hours) (Will take both of us probably to get this working)

- Deep Testing and Debugging: Comprehensive testing and debugging to ensure functionality as whole program. (3 hours)

User testing:

Validation Testing with Sample Data / Manual Verification

- Create a set of sample plaintext messages and encrypt them using the chat application.
- Decrypt these ciphertext messages using the chat application and compare the decrypted plaintext with the original plaintext.

- Provide users with sample plaintext messages and ask them to encrypt these messages using the chat application.
- Users can then compare the resulting ciphertext generated by the chat application with the expected ciphertext generated using another encryption tool (example online AES encryption tool).
- If the ciphertext matches the expected ciphertext, it indicates that the encryption functionality is working correctly.

Final Write Up and Presentation

Create final write up and work on presentation

- Keep notes during whole process to create README and presentation slides and/or script for video of functionality.
- Once week 4 comes around combining and/or teaching the other part to one another and preparing final layouts and bringing together for the big presentation (due march 18)
- Week 5
  - Flesh out presentation and turn in.
  - Start preparing to present.