**SPL-1 Project Proposal Form, 2023**

**Institute of Information Technology (IIT)**

**University of Dhaka**

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| **Student’s Name:** | **Shahid-E-Kaiser Md. Tashrif** | | |
| **Student’s Roll:** | **BSSE-1448** | **Phone:** | **01759197900** |
| **Project Description:**  AES (Advanced Encryption Standard) is a widely used encryption algorithm ensuring secure data transmission and storage. It provides confidentiality and data integrity by converting data into cipher text using a secret key. To optimize storage and transmission, the project incorporates Huffman compression, a technique that reduces data size without compromising information. The combination of AES encryption and Huffman compression guarantees robust security, safeguarding sensitive data during transit while enhancing overall efficiency. This system will provide these 2 functionalities to user who can utilize text files and pictures within the system and will be prompted to select compression and/or encryption options, ensuring a seamless and protected storage of the data.  **Features:**   * **AES Encryption:** Provides strong encryption to transform data into 128 bit cipher text, ensuring unauthorized parties cannot access sensitive information. * **Robust Security:** Using 256 bit key, it can take 128 bit blocks to binary data and produce same size cipher text after processing it 14 rounds. * **Huffman Compression:** Optimizes data storage and transmission by reducing file size without compromising data integrity. * **Data Redundancy Reduction:** Assigns variable-length codes based on data occurrence frequency, reducing redundancy. | | | |
| **Languages or Tools to be used: C, Github, Codeblocks** | | | |
| **Supervisor’s Name:\_\_\_\_\_Toukir\_Ahammed\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Signature of the supervisor:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | |
| **Before the Midterm Presentation:**  I confirm that the progress is satisfactory and I am forwarding it for midterm presentation.  **Signature of the supervisor:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | |
| **Midterm Presentation Feedback:** | | | |