NETWORK & CYBERSECURITY – I

PROJECT TITLE: PASSWORD STRENGTH TESTER & STRONG PASSWORD GENERATOR

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OVERVIEW

THE PASSWORD STRENGTH TESTER AND GENERATOR IS A C++ PROGRAM DESIGNED TO EVALUATE THE STRENGTH OF PASSWORDS AND GENERATE STRONG PASSWORDS BASED ON VARIOUS CRITERIA. THE PRIMARY OBJECTIVE OF THE PROJECT IS TO PROVIDE USERS WITH A TOOL TO ASSESS THE STRENGTH OF THEIR PASSWORDS AND GENERATE STRONG PASSWORDS BASED ON SPECIFIED CRITERIA. THE PROGRAM AIMS TO ENHANCE PASSWORD SECURITY BY EDUCATING USERS ABOUT POTENTIAL WEAKNESSES IN THEIR PASSWORDS AND ENCOURAGING THE USE OF STRONG, SECURE PASSWORDS.

FEATURES

I. Password Strength Testing

- The program assesses password strength based on criteria such as length, character types (uppercase, lowercase, digits, special symbols), and the presence of common words.

- Strength is categorized into Weak, Average, or Strong based on predefined criteria.

II. Password Generation

- The generated passwords include a combination of numerals, lowercase and uppercase letters, and special symbols, enhancing complexity and security.
- Users can specify the length of the generated password to meet their security requirements.

III. Time to Crack Estimation

- The program estimates the time it would take to crack a password based on its strength level, providing users with an understanding of potential security risks.

IV. Common Word Detection

- The program checks for the presence of common English words in the password, advising users to avoid easily guessable combinations.

V. File Handling

- The program utilizes external text files ("TEXT.txt" and "words.txt") to store common words used in strength testing.

VI. User Interaction

- The program features an interactive and user-friendly interface with clear instructions and options.
- Users are guided through the process of testing password strength or generating a new password.

CONCLUSION

The Password Strength Tester and Generator project aim to promote the use of secure passwords and educate users about password vulnerabilities. By combining strength testing and password generation features, the program provides a comprehensive solution to enhance online security. The interactive interface and detailed strength assessments make it a valuable tool for users seeking to improve their password practices.

REFERENCES

I. (GeeksforGeeks.org) provided the information about using rand() and srand() from <cstdlib> header file for random generation and time() from <ctime> header file for time preservation. These both libraries are utilized for the following function to randomly generate characters which are different each time and their seed is also refreshed.

II. (Sir Shahbaz Siddiqui) provided the necessary help and information in associating file handling using <fstream> header file in the given project as file handling helps us to match English words within the password string.

III. (stackoverflow.com) provided the information to add delay in printing the information within the source code using sleep() function from <windows.h> header file.

IV. (GeeksforGeeks.org) provided the information about using pow() from <math.h> header file for determining the estimated time to crack the password of specific strength.