EDGE: BU-CSE DIGITAL SKILLS TRAINING

Project on

Secure Password Generator

Method : Python

Submitted to

Md. Rashid Al Asif

Assistant Professor, Department of

Computer Science & Engineering

Developed by

MD.EKTIER HOSSAIN

EDGE Trainee

Trainee ID :

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1. Introduction In today's digital age, security is paramount, and strong passwords play a crucial role in safeguarding sensitive information. This project aims to develop a secure password generator that helps users create strong and random passwords based on their preferences. The application allows customization in terms of password length and character types, ensuring a balance between security and usability.

2. Project Objectives

- Develop a password generator with user-defined parameters.

- Ensure password strength by incorporating randomness.

- Provide an easy-to-use command-line interface for users.

- Enable users to copy passwords directly to the clipboard for convenience.

3. Features

- **Customizable Password Length:** Users can specify the desired length of the password.

- **Inclusion of Characters:** Option to include or exclude numbers and symbols.

- **Random Password Generation:** Ensures unpredictability and security.

- **Clipboard Copying:** Users can copy the generated password directly using the pyperclip library.

- **Error Handling:** Proper validation to prevent invalid inputs.

4. Technology Stack

- **Programming Language:** Python

- **Libraries Used:**

  - random (for generating random characters)

  - string (for handling character sets)

  - pyperclip (for clipboard functionality)

5. Implementation Steps

1. Develop a function to generate passwords based on user preferences.

2. Prompt users to input password length and select character preferences.

3. Utilize Python's random module to generate a secure password.

4. Display the generated password to the user.

5. Provide an option to copy the password to the clipboard.

6. Implement input validation and error handling for better user experience.

6. Expected Outcome A fully functional and user-friendly password generator that allows users to create secure passwords effortlessly. The tool will help users generate strong passwords that enhance their digital security.

7. Conclusion This project provides an effective solution for generating secure passwords, ensuring better cybersecurity practices. With customizable options and clipboard functionality, it serves as a valuable tool for individuals looking to enhance their online security.