

Project Report

Project Title: Password Strength Checker

Internship Organization: Elevate Labs

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Abstract

The **Password Strength Checker** is a Python-based tool that evaluates the security of user passwords. It classifies them as **Weak, Medium, or Strong** based on length, character variety, and use of symbols, while also providing suggestions for improvement. An optional password generator creates secure random passwords.

Objectives

- Check and classify password strength.
 - Provide improvement suggestions.
 - Generate secure random passwords.
 - Gain practical exposure in cybersecurity and Python development.
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Methodology

The project uses **Python** with `re` for pattern matching and `random` for password generation. Passwords are analyzed against defined rules and classified. Weak passwords trigger improvement tips, while the generator creates strong alternatives.

Results

- Passwords are successfully classified as Weak, Medium, or Strong.
 - Users receive suggestions to improve weak passwords.
 - A strong random password generator was implemented.
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Conclusion

The project highlights the importance of strong authentication in cybersecurity. It provided me hands-on experience in Python programming, clean coding, and project documentation during my internship at **Elevate Labs**.

Future Scope

- API integration for breach detection.

- GUI or web-based interface.
- Encrypted password manager.