

Project Report

Project Title: Password Strength Checker with GUI using Python

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Internship Program: Cybersecurity Internship







Internship Duration: June 2025 – July 2025

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1. Project Overview

This project is a robust, real-time **Password Strength Checker** with a sleek **Graphical User Interface (GUI)** developed using Python's Tkinter library. It aims to assist users in evaluating the strength of their passwords and encourages them to adopt secure password practices. The system offers instant feedback based on well-defined rules involving length, character diversity, and complexity—helping users create passwords that are harder to crack in brute-force or dictionary attacks.

2. Features Implemented

-  Real-time password strength feedback
 -  Eye icon toggle to show/hide password input
 -  Strength evaluation based on:
 - Minimum length
 - Use of lowercase, uppercase, digits, and symbols
 -  Color-coded feedback (Weak, Moderate, Strong, Very Strong)
 -  User-friendly interface designed with Tkinter
 -  Handles edge cases for better accuracy and UX
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3. Tools & Technologies Used

- **Programming Language:** Python
 - **GUI Library:** Tkinter
 - **Platform:** Windows
 - **IDE:** Visual Studio Code / PyCharm
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4. Learning Outcomes

- Gained in-depth knowledge of **password security standards** and best practices
 - Built real-time GUI applications with **event-driven programming**
 - Improved skills in **modular coding, code reusability**, and **UI design**
 - Learned how to handle real-world edge cases and improve **user experience**
 - Prepared for industry-level coding standards and **secure software development**
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5. Conclusion

This project enhanced my understanding of cybersecurity fundamentals, especially in the area of password protection and strength analysis. The application offers a practical and interactive way to educate users about strong password practices. This project can be extended into a full-fledged **password manager**, integrated into **authentication systems**, or even deployed in enterprise settings for internal password policy compliance checks.