Password Strength Analyzer & Wordlist Generator

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Introduction

This project aims to enhance cybersecurity awareness by helping users analyze the strength of their passwords and generate custom wordlists for testing password security.

Abstract

The Password Strength Analyzer & Wordlist Generator is a Python-based tool that provides insights into password strength using the zxcvbn library. It also generates wordlists based on user-specific data, which can be useful for penetration testing and strengthening password policies.

Tools Used

- Python 3.12
- zxcvbn (password strength estimation)
- tkinter (GUI framework)
- PyInstaller (for .exe creation)
- itertools (for wordlist variants)
- fpdf (for PDF generation)

Steps Involved in Building the Project

1. Collected user inputs: password, name, pet name, date.
2. Used zxcvbn to analyze password entropy and estimated crack time.
3. Generated custom wordlist with leetspeak, appended years, and permutations.
4. Built a GUI using tkinter to accept user input and trigger analysis/export.
5. Used PyInstaller to convert the script into a standalone Windows executable.

Conclusion

This tool offers both educational and practical value in cybersecurity awareness. By combining user-friendly design with technical analysis, it empowers users to create stronger passwords and understand vulnerabilities in common password patterns.