Internship Final Project Report - PassGuard

1. Introduction

PassGuard is a cybersecurity tool developed to analyze the strength of passwords and generate custom wordlists for ethical hacking or auditing purposes.

2. Abstract

The project aims to simulate how attackers might guess passwords using personal information while educating users about password strength. It combines entropy analysis using zxcvbn with smart wordlist generation based on names, dates, and pet names.

3. Tools Used

- Python

- argparse

- zxcvbn

- tkinter (for GUI)

- datetime

4. Steps Involved in Building the Project

1. Built CLI & GUI interfaces using argparse and tkinter.

2. Integrated zxcvbn for password strength analysis.

3. Collected user inputs (name, DOB, pet) to generate wordlist.

4. Applied leetspeak variations, string reversal, and suffix appending.

5. Implemented export feature with timestamped output.

6. Packaged tool in a clean project structure.

5. Conclusion

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PassGuard is a unique and scalable project that bridges theoretical and practical cybersecurity knowledge. It is easy to extend and useful in password hygiene awareness, red team practices, and ethical penetration testing.