Password Strength Checker

Test Report

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1. Introduction

This Test Report outlines the testing process for the Password Strength Checker application. It verifies the correct functionality of password analysis, crack time estimation, suggestions, and breach detection.

2. Testing Scope

- Password strength feedback (Weak, Fair, Strong)
- Crack time estimation
- Breach detection (HaveIBeenPwned API)
- Suggestions for improvement
- Password visibility toggle
- Mobile responsiveness
- Accessibility (basic keyboard navigation)

3. Test Environment

- Tested on Chrome, Firefox, Safari (latest versions)
- Devices: Macbook, Mobile (iPhone, Android)
- Network: Stable 10 Mbps WiFi

4. Test Cases Table

Test Case ID	Description	Input	Expected Output	Actual Output	Status (Pass/Fail)
TC01	Check weak password detection	"abc"	Strength: Weak	Strength: Weak	Pass
TC02	Check strong password detection	"Abc123$%"	Strength: Strong	Strength: Strong	Pass
TC03	Crack time estimation for complex password	"Salapushanmukha@2"	Several Years	Few seconds	Fail
TC04	Password visibility toggle works	Click Eye icon	Password shown/hidden	No change	Fail
TC05	Suggestions display for medium password	"Shanmukha"	Suggestions visible	Suggestions disappeared	Fail
TC06	Details of this project button functionality	Click Details button	Show project details	No response	Fail
TC07	Crack time estimation for simple password	"1234"	Instantly	Instantly	Pass
TC08	Breach detection API call for common password	"password"	Seen in breaches	Seen in breaches	Pass
TC09	Mobile responsiveness (mobile type)	Screen resize to 320px	Fully functional UI	UI elements misaligned	Fail
TC10	Basic keyboard navigation	Tab key use	Focus moves correctly	Focus moves correctly	Pass

5. Bug Log

Bug 1: Crack time estimation inaccurate for complex password

- **Test Case:** TC03
- **Description:** For password "Salapushanmukha@2", expected crack time of several years, but got "few seconds".
- **Severity:** High (affects core functionality and user trust).
- **Status:** Fixed
- **Fix Details:** Adjusted JavaScript logic for crack time calculation to better account for character variety and length in entropy scaling.

Bug 2: Password visibility toggle not working

- **Test Case:** TC04
- **Description:** Clicking the eye icon did not toggle password visibility.
- **Severity:** Medium (affects usability).
- **Status:** Fixed
- **Fix Details:** Updated JavaScript event listener for the toggle button to correctly switch between text and password input types.

Bug 3: Suggestions box disappearing for medium strength password

- **Test Case:** TC05
- **Description:** When password strength was medium (e.g., "Shanmukha"), the suggestions box disappeared instead of showing improvement tips.
- **Severity:** Medium (affects user guidance).
- **Status:** Fixed
- **Fix Details:** Modified JavaScript to ensure suggestions box remains visible for all strength levels except "Strong".

Bug 4: Details of this project button not functioning

- **Test Case:** TC06
- **Description:** Clicking the "Details of this project" button did not display project details.
- **Severity:** Medium (affects user experience).
- **Status:** Fixed
- **Fix Details:** Added a hover effect to the button for better visibility, fixed the click event handler, and included downloadable SRS and testing documents.

Bug 5: Mobile responsiveness issues

- **Test Case:** TC09
- **Description:** On mobile (320px), UI elements were misaligned, making the app hard to use.
- **Severity:** High (affects accessibility on mobile devices).
- **Status:** Fixed
- **Fix Details:** Adjusted CSS media queries to ensure proper alignment and functionality on mobile devices.

6. Conclusion

All core features of the Password Strength Checker have been tested. Five bugs were identified and fixed, improving crack time accuracy, visibility toggle, suggestions display, project details access, and mobile responsiveness. The application is now ready for public use.