

# Wi-Fi Password Strength Visualizer

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(Cyber Security)

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# **Problem Statement**

- Many Wi-Fi networks use weak or predictable passwords, making them vulnerable to attacks.
- Users are often unaware of the actual strength of their passwords.
- There is a need for a tool that provides visual feedback to encourage stronger password habits.

# Objective

- ✓ Accept Wi-Fi password input (manual)
- ✓ Analyze strength based on entropy, length, character variety
- ✓ Display strength visually (bar chart)
- ✓ Provide actionable tips to improve weak passwords

# Technology Stack

-  HTML, CSS, JavaScript
-  Chart.js for graphical visualization
-  Lightweight and responsive UI for a smooth user experience

# Approach / Workflow

- 1. User inputs password in the web app
- 2. JavaScript function analyzes the password's complexity
- 3. Chart.js displays the strength as a bar graph
- 4. Tips are shown based on strength score

# Screenshots

- Sample UI and result preview:



A sample user interface for a password strength checker. It consists of a light gray background with several elements: a text input field with the placeholder 'Enter Wi-Fi Password', a second text input field containing eight asterisks, a blue button labeled 'Check Strength', a red progress bar, and a feedback message.


Enter Wi-Fi Password

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Check Strength

Weak password. Use uppercase, numbers, and special characters.

# GitHub Repository

- Project code is available at:-
-  git clone  
<https://github.com/sizzimayank/wifi-password-visualizer.git>
- Repository includes:
  - - Source code (HTML, CSS, JS)
  - - README with instructions
  - - Presentation and assets

# Future Improvements

-  Auto-fetch saved Wi-Fi passwords (OS dependent)
-  Add more advanced strength analysis using `zxcvbn.js`
-  AI-based password suggestions
-  Enhanced UI with animation and transitions