Team: Penetration Testing and Red Teaming

Plot:

As a security intern at Tutelr Infosec Pvt Ltd and CSCOI community, you have been tasked with testing the strength of the passwords used by employees and clients of the company. To do this, you will be using Syngsong, a tool that creates password guesses based on song lyrics via the Genius API, and features Hashcat style masking to generate passphrases that meet password complexity requirements.

Assignment Task: Creating Password Guesses using Syngsong

Objective:

The objective of this assignment task is to introduce internship students at Tutelr Infinity Internship by Tutelr Infosec Pvt Ltd and CSCOI community to Syngsong, a tool that creates password guesses based on song lyrics via the Genius API. The students will use the tool to generate passphrases that meet password complexity requirements.

Instructions:

- **Introduction to Syngsong:**
  Provide an overview of Syngsong, including how it works, its features, and how it can be used to generate passphrases that meet password complexity requirements.

- **Generating Password Guesses:**
  Students will use Syngsong to generate password guesses based on song lyrics. They will choose a song they like and enter the song title and artist into Syngsong. They will then use the tool's Hashcat style masking feature to generate passphrases that meet the following requirements:

1. Minimum length: 12 characters
2. Must contain at least one uppercase letter, one lowercase letter, one number, and one special character
3. Cannot contain the artist or song name
4. Students should generate at least five different passphrases using Syngsong and provide screenshots of the tool's output for each one.

- **Password Complexity Analysis:**
  Students will analyze the complexity of each password guess they generated using Syngsong. They will use a password complexity analysis tool (such as zxcvbn) to analyze each password's strength and provide a written analysis of each password's strength, including suggestions for improving password complexity.

- **Conclusion:**
  In conclusion, students will summarize what they learned from this assignment task, including how Syngsong works, how to generate passphrases that meet password complexity requirements using Syngsong, and how to analyze password complexity using password complexity analysis tools.

- **Submission**
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Your task is to:

1. Download and install Syngsong on your computer. You can find the tool on GitHub at https://github.com/JonathanSalwan/Syngsong.

2. Use Syngsong to create password guesses for 50 users selected at random from the company's database. The passwords should be at least 12 characters long and meet the following complexity requirements:
   - Must contain at least one uppercase letter
   - Must contain at least one lowercase letter
   - Must contain at least one number
   - Must contain at least one special character
   - Once you have generated the password guesses, use a password cracking tool such as John the Ripper or Hashcat to attempt to crack them. Document your results in a report.

3. Based on your findings, make recommendations for improving the password policies and practices at the company.

4. Submit your report to your supervisor for review.: Sriram K

Note: As a security intern, it is important to treat all data and information with the utmost confidentiality and professionalism. Make sure you follow all relevant company policies and procedures when conducting this task.

Assessment

1. What is Syngsong?
    A. A tool to create song lyrics
    B. A tool to generate password guesses based on song lyrics via the Genius API
    C. A tool to download songs from the internet
    D. A tool to remix songs

2. How does Syngsong generate password guesses?
    A. By randomly guessing words from song lyrics
    B. By using a dictionary attack
    C. By using the Genius API to extract lyrics and then applying Hashcat style masking
    D. By brute forcing the password

3. What is Hashcat style masking?
    A. A technique used to hash passwords
    B. A technique used to generate random passwords
    C. A technique used to mask certain parts of a password
    D. A technique used to crack passwords

4. Can Syngsong generate passphrases that meet password complexity requirements?
    A. Yes
    B. No

5. Which API does Syngsong use to extract song lyrics?
    A. Spotify API
    B. Apple Music API
    C. Genius API
    D. Soundcloud API

6. How can Syngsong be useful for password cracking?
    A. By generating a list of potential passwords based on song lyrics
    B. By brute forcing passwords
    C. By using social engineering techniques
    D. By hacking into a system

7. What are some password complexity requirements that Syngsong can generate?
    A. Length requirements
    B. Character set requirements
    C. Combination of uppercase and lowercase letters, numbers and symbols
    D. All of the above

8. Is Syngsong a legal tool?
    A. Yes
    B. No

9. How can Syngsong be used ethically?
    A. To test the strength of one's own passwords
    B. To test the strength of passwords for others with their consent
    C. To crack passwords without authorization
    D. To steal personal information

10. What are some potential risks associated with using Syngsong?
    A. It can generate weak passwords
    B. It can violate the terms of service of the Genius API
    C. It can be used for illegal activities
    D. All of the above

**Submission

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