

1. Title

Project Title: *CyberCrack: A Red Team Simulation Toolkit*

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2.INTRODUCTION

► What is Cybersecurity?

Cybersecurity means protecting our computers, systems, and data from attacks, viruses, and hackers.

► What are Red Team Simulations?

Red team simulations are practice tasks where ethical hackers act like real attackers to test how secure a system is.

► Why is it Important?

To improve system security and teach new learners how attacks happen in real life.

3. PROBLEM STATEMENT

- Many beginners want to learn ethical hacking but don't have a safe place to practice.
- Online CTF platforms are often advanced or need constant internet access.
- There is a gap in simple, offline, and structured tools for practice.

4.PROJECT STATEMENT

- To create a simple Linux-based simulation tool.
- Provide beginner hackers with offline, step-by-step challenges.
- Help them understand how different hacking techniques work in real life.

5. Tool Overview

- CyberCrack has 15 levels of challenges inside folders.
- Each level has a small mission like finding a flag (hidden file or password).
- Based on Linux commands and file permissions.
- No internet required after setup – works locally.

6. *Key Features*

- **Different challenge types:** symbolic links, file hiding, zip cracking, binary cracking, etc.
- **Step-by-step learning:** levels get harder as you go.
- **Offline practice:** perfect for learners without full-time internet .

Encourages logical thinking and research.

7. Code/Tool Breakdown

Each level is a separate folder with tasks inside.

➤ Some levels use:

- **Symbolic links** to trick users.
- **Permissions** to hide flags.
- **Binaries** that require running and reverse-engineering.

A script or guide will help move from one level to the next.

8. Real-World Use Cases

- **CTF Competitions:** Prepares students for real Capture the Flag events.
- **Ethical Hacking Practice:** Builds the habit of thinking like a hacker.
- **Cybersecurity Education:** Teachers can use this in classes to train students.
- **Interview Preparation:** Helps in technical rounds for cybersecurity jobs.

9. Future Enhancements

- Add more advanced levels and different types of challenges.
- Add a GUI interface for users who don't know command line .
- Introduce Blue Team mode (defensive side).Include leaderboard for scoring if used in classrooms or groups.

10. Conclusion

- CyberCrack is a beginner-friendly, offline tool to learn ethical hacking.
- It is easy to use, educational, and simulates real-life attack situations.
- A great start for students, interns, and self-learners in cybersecurity.