

Gamified Security Awareness For Developers Training Platform

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Introduction

- OWASP principles are vital in cybersecurity but resources often lack the storytelling needed to effectively teach tech audiences.
- Our client challenged us to design an engaging cybersecurity game that teaches secure OWASP coding concepts to software developers.

Design Requirements

- Focus levels on OWASP Top 10.
- Provide a visually appealing interface with gradual level progression and rewarding play.
- Optimize for performance on all supported platforms (pc, mobile).

Technical Details

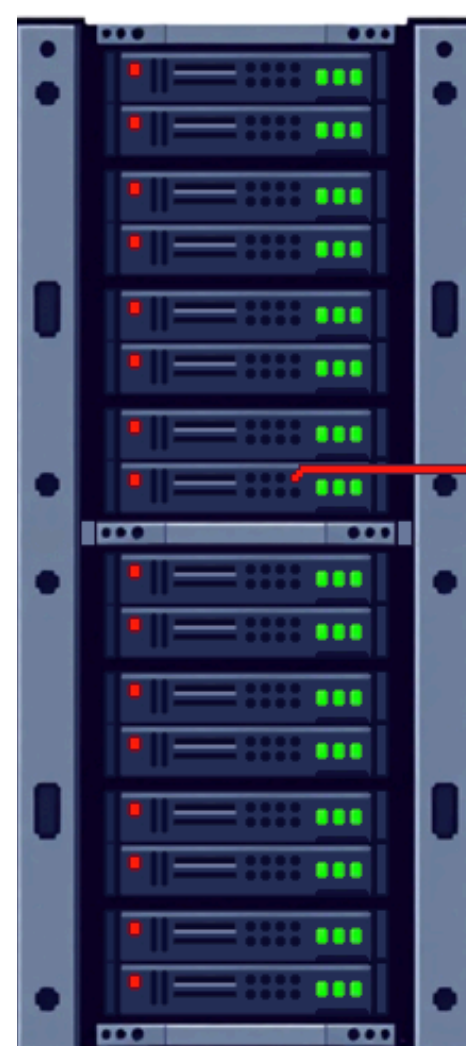
- Level 1:** Use basic terminal commands to unlock a door.
- Level 2:** Use social engineering to bypass guards through dialogue.
- Level 3:** Perform a privilege escalation attack and crack a cryptographic (SHA-256) failure.
- Level 4:** Address outdated software components, SQL injection, and dir/file security misconfigurations.
- Level 5:** Exploit an open SSH port and handle log-in authentication failures.
- Level 6:** Escape in a INTENSE chase with projectile shooting mechanics.

Use Cases

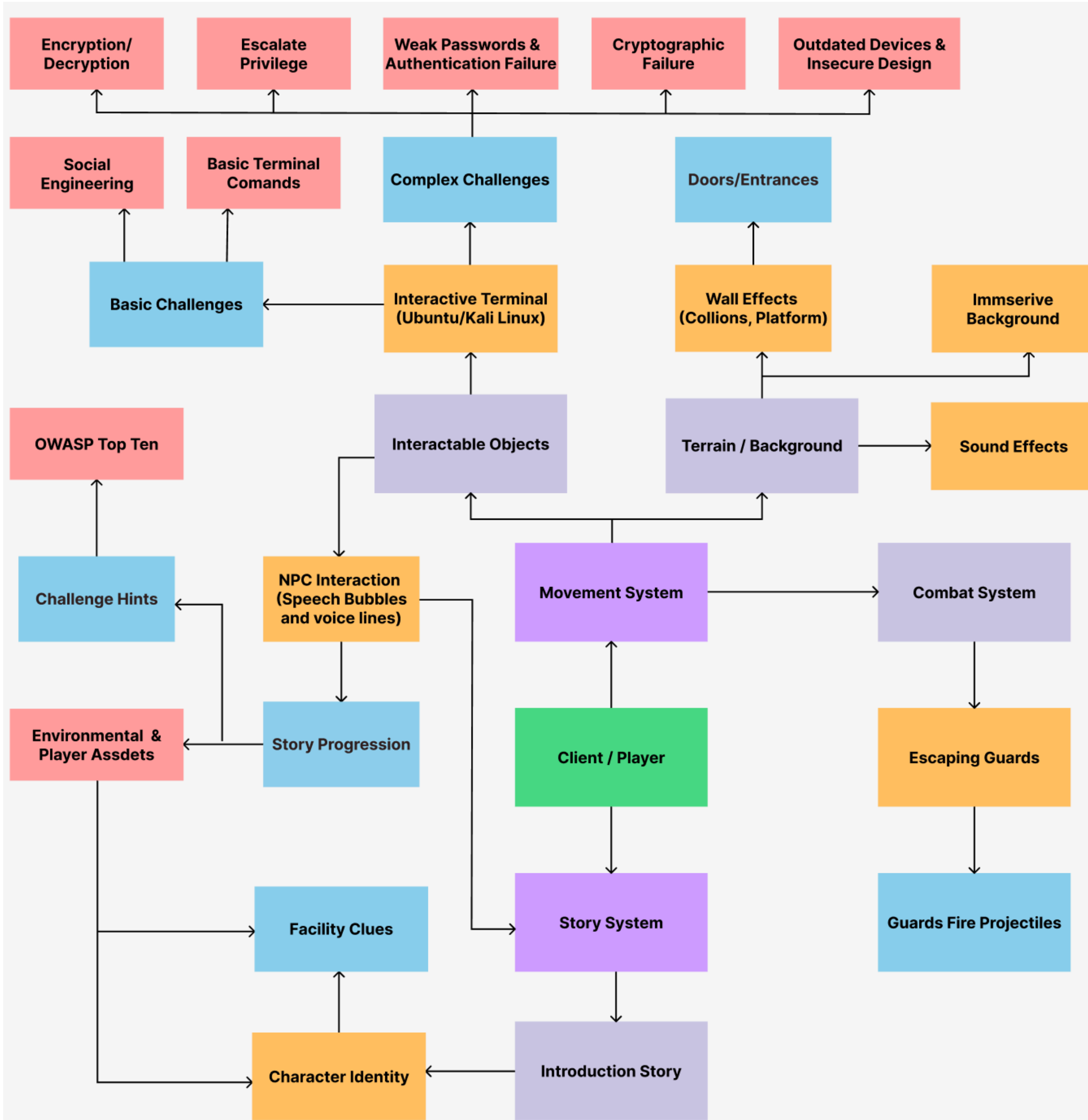
- Education
 - OWASP Principles
 - OWASP Top 10
- Entertainment
- Security Awareness

Intended Uses

- Originally designed for software developers.
- Now aims to raise cyber security awareness for all expertise levels.



Design Approach For CyEscape



- Unity Hub was our choice for the game design platform.
- Organized the game structure around key subsystems, with the player at the core, supported other in-game components.
- Designed to simulate real-world systems, misconfigurations, and attack scenarios for a quality educational experience.

Testing

All tests are performed in the Unity Test environment

- Regression Testing:** Verified new game elements like sound effects, terminal objects, NPC interactions, and projectile mechanics to ensure compatibility with existing features.
- System Testing:** Ensured levels met client requirements through iterative refinement, sprints, and client feedback.
- Integration Testing:** Verified game interaction, ensuring in-game objects and environmental mechanics worked well.

Terminal Object

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Level 4
Miral Laboratories Text Based Terminal - Copyright 3822
You can exit the terminal at anytime by entering the command: exit
To view the available level commands, type: help

Welcome User,

HIGHLY CLASSIFIED! Experiment information and audio consent files are stored on this monitor. Please handle with extreme care and ensure you sign out
after use. Even a minor mistake could trigger Code Red protocol. DO NOT allow any experiments near this desktop!

/////> help
All Commands:
whoami
    Prints the current user identity.

pwd
    Print the current working directory.

cd <directory>
    Change the current working directory.

ls
    List files in the current directory.

ls -l
    List files with detailed information.
    
```