

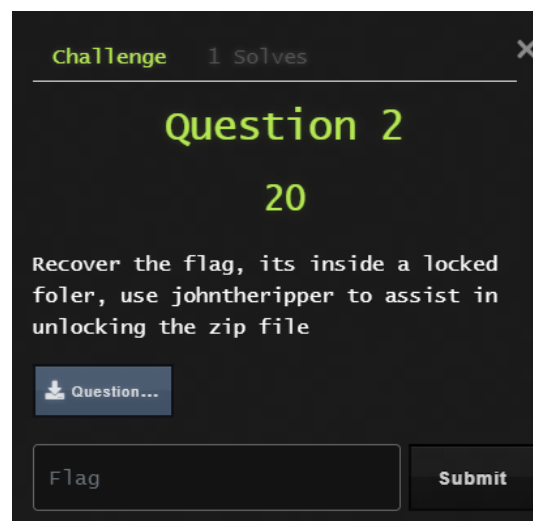
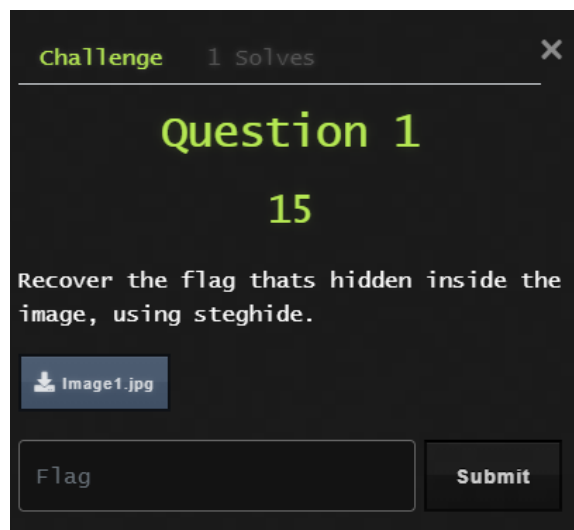
Capture the Flag [Project]

Sentinel Security

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INTRODUCTION

The goal of this project was to create a comprehensive Cybersecurity learning experience in the form of fun and exciting Capture the flag (CTF) challenges. Capture the flag is an IT game that requires competitors to utilize different tools, and techniques to recover hidden "flags", the user then enters the flag into the CTFd.io website to confirm that they have the correct flag.

These challenges are based on the core disciplines of cybersecurity. Which include forensics, web, cryptography, social engineering, and many more. The challenge types can range from things such as jeopardy style or attack and defence. Our aim was to produce a series of challenging, yet educational, modules that would entice potential students to join the ever-expanding field of Cyber Security.

DEVELOPMENT

The team developed these CTF challenges with the core goals of being challenging, yet also being educational and informative. These goals factor into enticing potential students into joining the Cybersecurity field. The five modules are divided into several separate questions each, and incorporate an array of tools and techniques that

players will learn and need to solve these challenges.

To accommodate the modules, the team has also produced more interactive documentation, in the forms of a narrative document, which contains short stories relating to each of the modules to provide some context, and a layer of fun for the players. There are also instructional documents which can be used to guide players and provide an educational reasoning behind each exercise.

However, to produce all of this, a considerable amount of research was undertaken to make up for the team's lack of familiarity with CTF challenges, prior to the commencement of this project. This was all supported by the team's use of the Kanban methodology, as it allowed for the effective, and fair delegation of the work.

CONCLUSION

The team successfully managed to develop five challenging, unique, and educational CTF modules, and produced thorough documentation, all of which cumulates into delivering an educational, and interactive experience that serves to provide potential students with a taster and insight into what is offered at WelTec, and the Cybersecurity field as a whole.