



GOAL

Our goal is to create a virtual-lab learning environment to educate about Cybersecurity. Within this environment, you will be able to change the difficulty of setting up and working with a virtual machine.

BACKGROUND

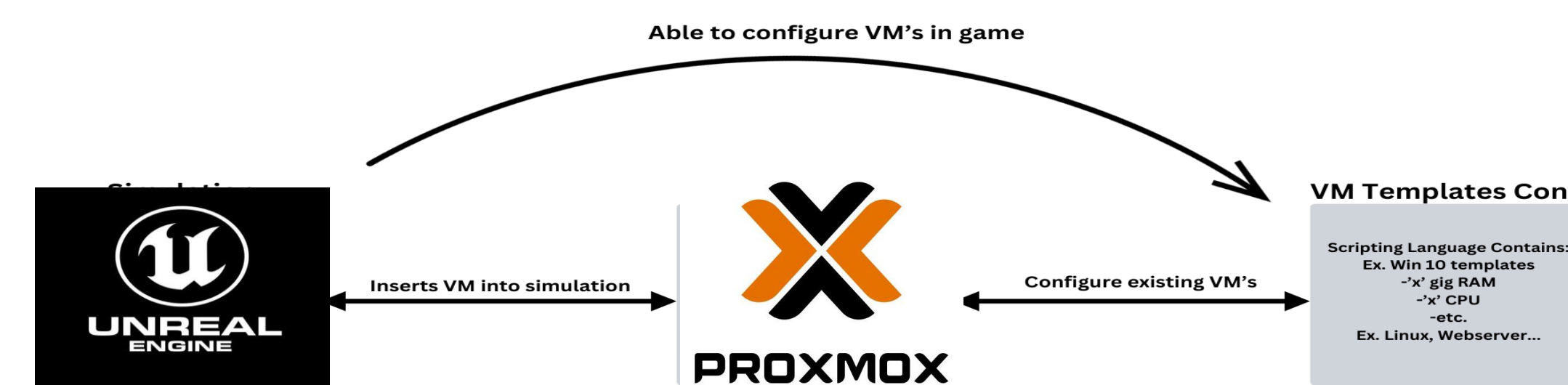
Currently, most of the digital network simulators platforms are lack comprehensive features for interacting with virtual structures and devices. Introducing such an immersive, game-like environment could revolutionize research and educational approaches in computing and networking.

KEY REQUIREMENTS

Our project demands a robust, scalable virtual infrastructure capable of simulating complex network environments and supporting varied cybersecurity educational needs. Key requirements includes reliable virtualization technology via Proxmox, a user-friendly interface and virtual environment designed in the UE5.

CONCEPT DEVELOPMENT

-  Create a virtual-lab learning environment to educate anyone with various knowledge of Cybersecurity.
-  Be able to change difficulty for setting up a virtual machine



FINAL DESIGN

-  Create a virtual Cybersecurity lab



VALIDATION



-  Create an API to establish a connection between game client and hypervisor.
-  Simulate a 3D PC setup with a connection to a VM

CONCLUSION

This project represents a pioneering step towards integrating cybersecurity education with immersive, gamified technology. By leveraging cutting-edge virtualization and simulation tools, it aims to offer a dynamic learning platform that adapts to the cybersecurity training education.

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University of Idaho

Department of Computer Science

Dr. Conte de Leon