Pwn2Own-CTF

(Intentionally Vulnerable Machine)

A Synopsis Submitted to

Chhattisgarh Swami Vivekanand Technical University

Bhilai (C.G.), India

For fulfillment of the award of Degree

Bachelor of Technology

In

Computer Science And Engineering

By

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Enrollment No. BJ5755

Under the guidance of

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SINCE 1995
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DECLARATION BY THE CANDIDATE

I the undersigned solemnly declare that the report of the thesis work entitled "CaptureTheFlag" is based my own work carried out during the course of my study under the supervision of Miss Khushboo Shrivastava ma'am, Asst. Prof., Department of CSE, RITEE, Raipur.

I assert that the statements made and conclusions drawn are an outcome of the project work. I further declare that to the best of my knowledge and belief that the report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate in this University /deemed University of India or any other country.

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CERTIFICATE BY THE SUPERVISOR

This is to certify that the report of the thesis entitled "CaptureTheFlag" is a record of research work carried out by bearing Roll No: 301202220065 & Enrollment No.: BJ5755 Under my guidance and supervision for the award of Degree of Bachelor of Technology in Computer Science and Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.), India.

To the best of my knowledge and belief the thesis

i) Embodies the work of the candidate himself.
ii) Has duly been completed.
iii) Fulfils the requirement of the Ordinance relating to the B.E. degree of the University and
iv) Is up to the desired standard both in respect of contents and language for being referred to the examiners.

_____ _____

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CERTIFICATE BY THE EXAMINERS

The Thesis entitled "Untitled" submitted by Durgesh Sahu (Roll No.: 301202220065 Enrollment No.: BJ5755) has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Bachelor of Technology in Computer Science and Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

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TITLE

“Capturing the flag by Breaking the security”

In computer era Capture the flag (CTF) is a type of game that involves solving challenges related to computer security. These challenges can be related to different areas of computer security, such as cryptography, web security, and network security. The goal of a CTF competition is to find and capture a "flag," which is typically a piece of hidden information or a file. CTF competitions are a fun and educational way for people to learn about computer security and test their skills in a safe and controlled environment.

ABSTRACT

The aim of this project is to introducing and educating the students of various factor of Cybersecurity(Cybersecurity is the practice of protecting devices, networks, and systems from digital attacks.) in a fun way and getting practical and hands-on experience by simulating real life attack scenario which make it more exciting.

Vulnerable machine is a intentionally designed operating system where one can learn and practice Cybersecurity.

INTRODUCTION

In today's digital world, almost everything we do involves the use of technology and the internet, which means that we are all at risk of being targeted by cyber criminals. By learning about Cybersecurity, individuals can better protect themselves and their personal information from being accessed or stolen by others. Additionally, having a basic understanding of Cybersecurity can also help individuals to recognize and avoid common online threats, such as phishing scams and malware. This knowledge can be particularly important for individuals who handle sensitive information.

Keeping this in mind, we have prepared this project.

This project is based on CTF concept where user have to understand the problems/challenges that could be from different domain of Cybersecurity i.e. web application related issue , forensic, OSINT, programing, exploiting binary and reverse engineering and solve the challenges and get the flag after solving the challenge and proceeding to next level thus solving all challenges user could get root.txt file containing last flag.

Note : Although, this is CTF type of machine/project our main concern here is to let everyone learn which is to say if someone is not able to solve the problem and eager to learn they are welcome to go through write-up uploaded on web site not only that if someone is passionate to learn and want to get into this field he/she will be provided a resources to start their journey in this field.

We tried to design mostly all type of security challenges and a simple simulation that will help one to understand the challenges even if didn’t make to solve .

Domain covered :

Web Application Security

System software security

Forensic

OSINT(Open Source Intelligence)

Malware analysis

Cryptography

Android

Block-chain

OBJECTIVES:

- Introduce students to Cybersecurity by solving security challenges
- How to mitigate vulnerabilities in system and software
- How to secure confidential credentials
- How to secure coding

REQUIREMENT :

HARDWARE REQUIREMENT:

A Laptop or Computer

- PROCESSOR INTEL i3 or pentium (3rd preferable)
- RAM 4gb.
- ROM 500 SSD/HDD

SOFTWARE REQUIREMENT:

- Vritualbox (5.2.42 in use)/Vmware workstaion
- OS(Vulnerable machine) user can download from provided link.

Conclusion

The machine has been implemented and tested successfully . it meets the requirements specified to the great extent . New version of machine will be uploaded in feature with new technology, difficulties and with extra fun :) as well as blogs will be updated periodically where user can keep their self updated .

Thank You !