Reverse Engineering Lab

Graduate

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Introduction:

This bachelor thesis is based on a previously created "Reverse Engineering Lab" term project by the team, which consists of beginner level hands-on exercises (challenges) for students at OST to get into software reverse engineering. However, some important aspects were not covered in the previous lab. This bachelor thesis is geared towards advanced reverse engineering in order to go deeper and into in-depth reverse engineering techniques.

This bachelor thesis extends the existing "Reverse Engineering Lab", adding 10 more complex practice labs and exercises by introducing new reversing methods, tools, and frameworks. The new and advanced exercises can then be used by the teachers at the OST to lecture on the subject of reverse engineering. This gives the students a better insight into the subject and a more enriched, practical, and hands-on experience.

Approach:

First, we created a collection of topics not yet covered in the previously created "Reverse Engineering Lab". These topics were then evaluated by the team and the advisor based on personal interest, usefulness, and importance in the field of reverse engineering. This evaluation was used to discuss which topics we should create challenges for. During the semester we used Scrum to iteratively create the challenges. Whenever a challenge was finished, it was tested by us, fellow students, and other volunteers. This process ensured the high quality of the challenges.

Result:

The goal of this bachelor thesis, the creation of 10 new reverse engineering challenges covering new methods, tools, and frameworks, was successfully achieved. All the challenges are hosted on Hacking-Lab, an online platform for cybersecurity training and ethical hacking. Hacking-Lab provides students with everything they need to improve their reverse engineering skills.
The aim was to teach students techniques that would reveal potential attack vectors. The final product is a collection of many advanced reverse engineering topics, providing deeper insight and teaching problem-solving skills.

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Subject Area
Security, Software