

VSS 401: Chip Off Extraction and Forensics

Description

This course is designed to provide students with a comprehensive understanding of hardware reverse engineering techniques with a focus on desoldering flash chips and extracting forensic data. The course covers the principles and techniques of hardware reverse engineering and the importance of proper handling and preservation of electronic evidence. Students will learn how to use various tools and techniques to desolder flash chips and extract forensic data from electronic devices.

Objectives

- Understand the principles of hardware reverse engineering and the importance of proper handling and preservation of electronic evidence
- Learn the techniques and tools used in desoldering flash chips
- Develop the ability to extract forensic data from electronic devices using programmers such as the TL56 and others
- Gain practical experience in the use of hardware reverse engineering techniques through hands-on lab exercises
- Extract flash memory and data from multiple devices including an Android based device, router and IP camera.
- Learn how various flash interfaces work including SPI, NAND and eMMC

Outline

- Introduction to Hardware Reverse Engineering
 - Overview of hardware reverse engineering and its role in investigations
 - Importance of proper handling and preservation of electronic evidence
 - Overview of common electronic devices and the types of data that can be extracted from them
- Desoldering Techniques
 - Overview of desoldering tools and techniques
 - Hands-on lab exercises to practice desoldering flash chips from electronic devices
- Flash Chip Extraction
 - Overview of flash chip extraction tools and techniques
 - Hands-on lab exercises to practice extracting flash chips from electronic devices
- Forensic Data Extraction
 - Overview of forensic data extraction tools and techniques

- Hands-on lab exercises to practice extracting forensic data from electronic devices
- Data Analysis and Interpretation
 - Overview of data analysis and interpretation techniques
 - Hands-on lab exercises to practice analyzing and interpreting data obtained through desoldering, flash chip extraction and forensic data extraction
- Conclusion
 - Summary of key concepts and techniques covered in the course
 - Discussion of the future of

Outcomes

After participating in this course, students will be comfortable using a soldering station and have experience removing and replacing flash memory devices. For each flash device removed students will learn how to extract data of interest and properly document their findings. Each student attending the course will receive a TL56 flash programmer as well as the hardware targets that are used throughout the course.

Prerequisites

For onsite offerings, a soldering station with hot air rework capabilities is required to ensure that students get practical experience with chip removal and data extraction. Students should have access to a Windows computer that they can install software on (for the TL56 programmer).

Schedule / Pricing

Duration: 3 Days

Cost Per Student: \$3,000