Fraunhofer

ACADEMY

SEMINAR

HOW YOU CAN BENEFIT: AT A GLANCE

After the seminar, you will be able to ...

... take security into account at all stages of software development.
... assess and protect against important threats for secure software.
... avoid, track and eliminate significant security vulnerabilities in software.

This seminar will provide you with ...

... a comprehensive overview of the procedure for designing and implementing secure software.
... workshops in which you can try out the development of secure software using sample projects.
... interaction with experts and colleagues.

www.academy.fraunhofer.de/cybersecurity

SECURE SOFTWARE ENGINEERING IN THE AUTOMOTIVE DEVELOPMENT PROCESS

The challenge: it is difficult to make software secure once is has been programmed

Systems and applications are becoming more and more complex, and more interconnected. This expands the areas in which the systems are susceptible to attacks.

Whether it's PC applications, smartphone applications, or devices as part of the Internet of Things, the development of secure software systems will become more and more important for you when looking to increase resistance to attacks. New threats must be handled appropriately at all stages of the development process.

The solution: take into account essential best practices during all stages of software development

The goal of this basic training course is to provide participants with the knowledge and the ability to assess current procedure models, methods and tools that can be used for the systematic development of secure software throughout its entire life cycle. This includes looking at security requirements and learning how to carry out threat analyses. The course also investigates the secure implementation of the software, along with testing of software for security weaknesses. The knowledge obtained from the course is then put to the test in practical workshops. An overview of the research currently done in this field is also provided.

Course: Secure software engineering in the automotive development process

Prerequisites: Basic knowledge of software engineering: software development processes, requirement analysis, programming in Java or C, software testing

Duration: 2 days in class

Costs: 1.200 €

Event location: Garching bei München

Organized by:

Fraunhofer
AISEC

Contents

– Procedure models, maturity models and standards for the development of secure software
– Risk and requirement analysis
– Workshop requirements: Structural analysis with DFD, threat analysis with STRIDE, risk modeling, specification of requirements
– Secure design: Principles and design patterns
– Secure implementation: Points of attack in the automotive field
– Typical vulnerabilities in implementation and countermeasures
– Implementation workshop: Finding and avoiding programming errors
– Testing protection concepts

Learning objectives

– Knowing and assessing important current procedure models, methods and tools for the systematic development of secure software throughout its entire life cycle
– Implementing fundamental design tasks for developing secure software
– Avoiding, discovering and eliminating central implementation errors

Target group

– Software architects and engineers
– Experts and technical (project) managers in development projects

Prof. Roland Hellmann
Professor of Computer Science
at Aalen University

The Cyber-Security Training Lab: Advanced Training for the IT security experts of tomorrow

The Cyber-Security Training Lab is the result of a collaborative effort between Fraunhofer and a number of select technical colleges, transferring up-to-date knowledge of cyber-security as part of advanced training courses offered to companies. All over Germany, specialists and managers in industry and public administration receive compact qualifications in top labs with the latest IT infrastructure.

DO YOU STILL HAVE QUESTIONS ABOUT …

… Secure Software Engineering?
Prof. Roland Hellmann
Aalen University
Phone +49 7361 576-4138
roland.hellmann@hs-aalen.de

… registration, organization or other courses offered?
Adem Salgin | Fraunhofer Academy
Phone +49 89 1205-1555
cybersicherheit@fraunhofer.de