COURSE DETAIL

INTERNATIONAL INFORMATION SECURITY CONTEST
Country Germany
Host Institution Technical University Berlin
Program(s) Technical University Berlin
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Computer Science
UCEAP Course Number 146
UCEAP Course Suffix
UCEAP Official Title INTERNATIONAL INFORMATION SECURITY CONTEST
UCEAP Transcript Title INTL INFO SEC CNTST
UCEAP Quarter Units 11.00
UCEAP Semester Units 7.30

Course Description

Participants explore software security hands-on with the goal to develop and host an international information security contest (¨Attack/Defense CTF”): contesting teams from all over the world receive virtual machines built during the project. The machines run participants’ services, containing secret tokens ("flags") that other teams have to collect over the wire using exploits as part of the game. To build the contest, participants will dive deep into the security of a platform and language of their choice and create a software project with well-hidden software vulnerabilities in this language. Furthermore, a game server will be developed as a team, including scripts to check the health of services for each contestant. As part of the development and hosting, participants will develop and extend the infrastructure required to host the competition, strengthen their skills in penetration testing and exploitation, and build upon other technical and non-technical abilities, depending on their role in the project. Such skills may include networking, continuous integration, agile development, project management and public relations. Furthermore, students develop and extend the infrastructure, required for the competition. The course gives participants the freedom to explore tools of their choice, build software and find creative ways to corrupt it, with the work done both independently and in small teams. Insecure software is a potential threat to both the industry and the democratic society. The course supports goals on sustainability by raising awareness on IT security, and teaching the ability to detect, fix and avoid security issues in software, not only for the students, but also for the international participants of the competition. Furthermore, we support open-source, by making all material publicly available in the end.

Language(s) of Instruction
English

Host Institution Course Number
40933

Host Institution Course Title
INTERNATIONAL INFORMATION SECURITY CONTEST

Host Institution Campus
Host Institution Faculty
Host Institution Degree
Host Institution Department Institut für Softwaretechnik und Theoretische Informatik

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