Lab Security in Distributed Systems

MA-INF 3320

Application

In order to get a topic, you will need to submit your expose until 23.03.2020. Please send it to the respective supervisors. You will be informed whether you were chosen/not chosen for your favourite lab topic until 02.04.2020. Multiple applications are allowed for up to three topics.

Deadline for expose: 23.03.2020

Deadline for registration in BASIS: 30.04.2020

Anti- and Anti-Anti-Fuzzing Techniques

Supervisor

Klaus Tulbure tulburek@iai.uni-bonn.de



Anti- and Anti-Anti-Fuzzing Techniques

Fuzzing is a state-of-the-art analysis for finding bugs and vulnerabilities in software. It can be described as an "intelligent" brute-force analysis that penetrates a program with input to, hopefully, cause a crash.

Some developers might not want their software to be fuzzable, e.g. to protect it against adversaries. Hence, they implement anti-fuzzing techniques that slow down the fuzzing process.

However, that's just security by obscurity (i.e. not good) and on the long term an attacker will overcome the obstacle. Hence, one wants to break these anti-fuzzing techniques and find potentially hidden bugs before an attacker does.



Anti- and Anti-Anti-Fuzzing Techniques

Your task will be to develop such an anti-fuzzing technique, **or** to take an existing technique and improve a fuzzer to overcome it.

Requirements are advanced programming skills in

• C/C++ or Java

Literature

Jung, Jinho, et al. "FUZZIFICATION: anti-fuzzing techniques." *28th USENIX Security Symposium (USENIX Security 19)*. 2019.



Password Manager Security Analysis

Supervisor

Mischa Meier meierm@cs.uni-bonn.de



Password Manager Security Analysis

This Project group / Lab is for those with a strong interest in applied Security. You will review an open source password manager for vulnerabilities, covering topics including:

- Web Security
- Application security
- Cryptography
- Backdoors

This Project group / Lab is not a primer on Security.

You should either have a Background in Security or be willing to spend additional time learning about it.



Own ideas?

Supervisors

all of us

send your ideas to Klaus Tulbure tulburek@iai.uni-bonn.de



Own ideas?

You've got some **own ideas** for a project in Usable Security and Privacy?



We'd love to work with you on that!

