Projektgruppe

Sicherheit in verteilten Systemen
Conducting Studies with Experts

Supervisors:
Alena Naiakshina
Anastasia Danilova
About us …

• Our research field:

Usable Security and Privacy for Developers & Administrators
Lab Topic 1: Documentation Usability

• Good documentation might lead to more secure code
• How can API documentation be evaluated? Find criteria to evaluate documentations

• Design a guideline & conduct a developer study to investigate documentation usability

• Possibly as group project
Literature

• You Get Where You're Looking for: The Impact of Information Sources on Code Security
  Yasemin Acar ; Michael Backes ; Sascha Fahl ; Doowon Kim ; Michelle L. Mazurek ; Christian Stransky

• Developers Need Support, Too: A Survey of Security Advice for Software Developers
  Yasemin Acar ; Christian Stransky ; Dominik Wermke ; L. Mazurek ; Sascha Fahl
Lab Topic 2: Developer Mental Model Warning

• Design and explore the mental model of software developer
• How would software developer want to be warned, drawing

• Design guideline and conduct software developer studies

• Evaluate and summarize mental models
Literature

- Cristian Bravo-Lillo, Lorrie Faith Cranor, Julie Downs, Saranga Komanduri: Bridging the Gap in Computer Security Warnings A Mental Model Approach
Lab Topic 3: Administrator Security Warnings

- Examine prior research on administrator security warnings
- Which warning types could be possible
- Design study and find out about security warning approaches and types
- Evaluate interviews
Lab Topic 4: Security Warning on Committing

• Implement a warning which is displayed on committing

• Choose an IDE which you want to use e.g Eclipse, Netbeans

• Add warnings on committing in the IDE

• Evaluate the tool
Lab Topic 5: Usability Evaluation IDS

- IDS = Intrusion Detection System
- Evaluate usability of one of the most prominent IDS with developer studies
- How easy is the set-up?
- How easy is the usage?
Lab Topic 6: Security advice

• What do developers use to program:
  
documentation, stackoverflow, tutorials etc

• How much security advice do they find on the resources

• Which security advice do they prefer: Security warnings, documentation, education etc.?
Lab Topic 7: Security motivation administrators

- What do administrators see as motivation factors and deterrents for security
- Interview + Survey

Similar to “Think secure from the beginning”: A Survey with Software Developers from Assal et al.
Own ideas

• Any **own ideas** for a project in Usable Security and Privacy for developers/admins?

  GREAT!

• We’d love to work with you on that!
Apply

• Please send your exposé to:

  danilova@cs.uni-bonn.de

**Deadline for exposé: 9 April**

• On the **16 April** you will be informed whether you were chosen/not chosen for your favourite lab topic
• **Register deadline for the lab in BASIS:** 30.04.2019
Fuzzing GUI

Supervisor: Klaus Tulbure
About me …

• My research field:

Usable Program Analysis
Fuzzer

• "intelligent brute-force" analysis of programs
Lab Topic 1: Fuzzing GUI

• design a GUI that assists the user on the fuzzing work-flow

• the GUI should provide a live representation of the fuzzing process and controls for the fuzzer

• implement it as a plug-in for a common IDE/editor, e.g.
  • Microsoft Visual Studio Code
  • Jetbrains Clion
Lab Topic 2: Back-end for Fuzzing GUI

• provide a bridge between the fuzzer and the GUI front-end
• pre-process the program information for the front-end
• observe and control the fuzzer
• state-of-the-art fuzzers: libfuzzer and American Fuzzy Lop
Apply

- Please send your exposé to: tulburek@cs.uni-bonn.de

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About me
Intro Research Topic
Topic
Apply

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