Lab Usable Security & Privacy

MA-INF 3319

Application

In order to get a topic, you will need to submit your expose until 08.10.2019. Please send it to the respective supervisors. You will be informed whether you were chosen/not chosen for your favourite lab topic until 15.10.2019. Multiple applications are allowed for up to three topics.

Requirements: Participation in the lecture Usable Security & Privacy

Deadline for expose: 08.10.2019

Deadline for registration in BASIS: 31.10.2019

Requirement: passing the lecture Usable Security and Privacy MA-INF 3235

Recruiting Software Developers as Study Participants

Supervisor

Anastasia Danilova
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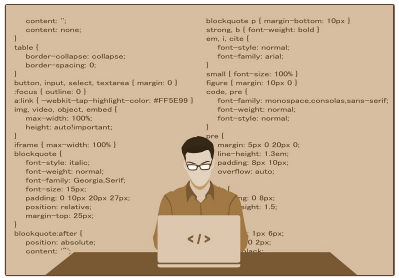
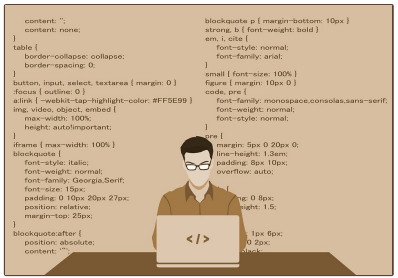


Recruiting Software Developers as Study Participants

We conduct different kind of studies, some in which developers need to complete source code and submit their solution, and others where we ask more general questions. However, in the latter, developers do not need to program and we cannot be sure whether they really are developers or whether they only want the compensation.

Also, there are different participant groups to conduct developer studies with: computer science students, software developers (freelancers and professionals).



Recruiting Software Developers as Study Participants

The main research question of this lab is: How should participants for developer studies be recruited? How can we really make sure the respondents are developers?

Plan

1. Examine literature on how software developers were recruited. Did they need to pass knowledge questions?
2. Design different tasks or questions and evaluate these approaches (e.g. with fellow computer science students as participants) to analyze which tasks could be used for recruitment.
3. Test the tasks with an online study, e.g. on amazon mturk, Qualtrics etc.

Usability of fuzzers

Supervisor

Stephan Plöger
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Usability of fuzzers

The idea is to conduct a study where participants solve different fuzzing tasks with different fuzzers to determine the usability of those fuzzers.

Tasks to solve are and are not limited to: Which fuzzers to use - which programs/tasks to use - type of participants - type of study.

A key problem is to find appropriate tasks and participants.

Requirements are programming skills in

- C/C++ to be able to work with the most common fuzzers
- Knowledge about study design (USECAP lecture)
- Knowing what a fuzzer is is helpful

Usability study about fixing bugs (fuzzing)

Supervisor

Stephan Plöger
ploegers@cs.uni-bonn.de

Usability study about fixing bugs (fuzzing)

The idea is to conduct a study where participants are confronted with the output of different fuzzers and asked to find and fix the corresponding bug to determine the usability of the output.

Tasks to solve are and are not limited to: Which fuzzers to use - which programs/tasks to use - type of participants - type of study.

A key problem is to find appropriate tasks and participants.

Requirements are programming skills in

- C/C++ to be able to work with the most common fuzzers
- Knowledge about study design (USECAP lecture)
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Analyzing Account Recovery Options on Websites

Supervisor

Eva Gerlitz
gerlitz@cs.uni-bonn.de

Analyzing Account Recovery Options on Websites

Whenever users forget their passwords, websites offer some kind of password/account recovery, e.g. resetting the password by providing a link or code which is sent to the users' email address or phone, asking security questions etc.

Research question: How does account recovery look like in the wild for high, medium and low traffic websites? Is there a connection between the options and other characteristics like the websites' traffic or the websites' sector?

Authentication using Yubikeys and FIDO2

Supervisor

Eva Gerlitz
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Authentication using Yubikeys and FIDO2

Yubikeys aims at making authentication easier for users and more secure at the same time compared to other authentication methods.

Research question: How does the usability of Yubikeys actually look like?

Plan

1. Familiarize yourself with Yubikeys (e.g. using a cognitive walk-through)
2. Plan and conduct a user study to test the usability with end users

Usability Investigation of IDS Systems

Supervisor

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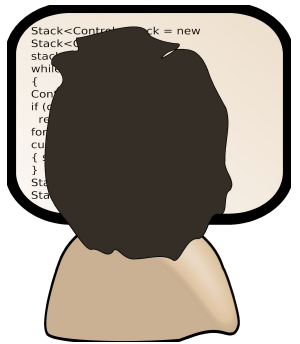


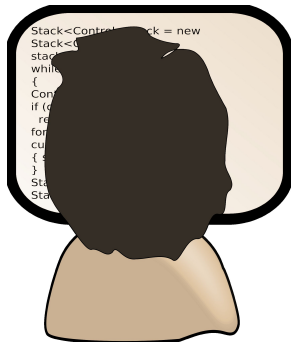
IDS Systems - Usability?

The idea is to test current intrusion detection systems (IDS) for usability.

Your task will be to test IDS's that you are familiar with for usability. First, with a heuristic evaluation, then perhaps with a small usability study. Alternatively you can try to improve the system and evaluate your prototype.

Requirements:

- Past experience with at least one IDS system
- Good technical skills and the skill to work autonomously
- Willingness to work yourself into the systems, set them up, and test them for usability



Own ideas?

Supervisors

all of us

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

Own ideas?

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

GREAT!

We'd love to work with you on that!