Proseminar
"Network Hacking and Defense"
Information Session

Prof. Dr.-Ing. Georg Carle and I8 research staff
Organization: Dr. Holger Kinkelin, Stefan Liebald
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Chair of Network Architectures and Services
Department of Informatics
Technical University of Munich

Today's agenda

Administrative issues
Responsibilities & learning targets

Procedures

Grading, deadlines and rules

Course and topic assignment

All dates and deadlines

Questions

Disclaimer

All information given today is NOT binding.

Final dates, deadlines and topics will be
presented at the kickoff meeting at 21.10.2016.

Picture: https://openclipart.org/detail/48349/warning-sign

Basic information

- ▶ Lecturer/supervisor: Prof. Dr.-Ing. Georg Carle
- ▶ Organization:
    - ▶ Dr. Holger Kinkelin, Stefan Liebald
    - ▶ Contact: proseminar@net.in.tum.de
- ▶ Advisers:
    - ▶ Dr. Holger Kinkelin, Stefan Liebald and members of our chair
    - ▶ Contact: lastname@net.in.tum.de
- ▶ Course language: German
    - ▶ You may write your paper/give your talk in English as well.
- ▶ Course type: Proseminar for B.Sc. students
- ▶ Extent: 2 SWS (4 ECTS $\equiv$ 120 hours)
- ▶ Attendance is mandatory
    - ▶ You cannot attend a session for a good reason? Contact us in advance.

Picture: https://openclipart.org/detail/173675/information-icon

Basic information

- Moodle:
    - https://www.moodle.tum.de/course/view.php?id=xxxxx
    - Communication platform (news, mailing list, forum, etc.)
    - Submission of papers
    - Review process
    - LaTeX templates for papers
    - LaTeX, powerpoint, openoffice templates for slides

Picture: https://openclipart.org/detail/173675/information-icon

Learning targets

- First contact with scientific working methods:
  - Research information
  - Write a scientific paper
  - Create/give a talk
  - Perform peer reviews

$\rightarrow$ Good opportunity to practice for your BA/MA thesis.

- Network-related topics with attack/defence focus:
  - Understand threats in networked environments
  - Understand how attacks work
  - Understand how defence mechanisms work

$\rightarrow$ Good opportunity to refresh your networking knowledge.

Paper procedure

- ► Extent: 6 (full) to 8 pages in 2 column ACM paper style
- ► Write first version of your paper:
  - ► Get basic information about topic from adviser
  - ► Meet with adviser & agree on content of paper/talk
  - ► Search for additional information
  - ► Due to 22.12.16
- ► Review two papers of your co-students:
  - ► Familiarize yourself with "foreign" papers/topics
  - ► Write a review about both papers
  - ► Due to 08.01.17
- ► Create final ("corrected") version of your paper:
  - ► Using feedback/reviews of adviser/co-students
  - ► Due to 12.02.17

Talk procedure

- ▶ Duration: 20 - 25 minutes
  - ▶ Additional 5 minutes for a demo
- ▶ First version of your slides:
  - ▶ The adviser will give feedback
  - ▶ Due to 08.01.16
- ▶ Final version of your slides:
  - ▶ The adviser will give final feedback
  - ▶ No slide review by adviser → no talk!
  - ▶ Due to one week before your talk
- ▶ Give your talk and discuss with the audience
- ▶ You are sick at the day of your presentation?
  - ▶ The talk is an examination so we need a medical certificate.

Information sources for your topic

- ▶ Advisers will provide a first set of information, e.g.,
    - ▶ papers,
    - ▶ links,
- ▶ ... and suggestions into which direction you should research.
- ▶ Appropriate (= scientific) sources are, e.g.,
    - ▶ scientific papers found via Google Scholar, ACM, IEEE,
    - ▶ scientific papers linked in Wikipedia (not the article itself),
    - ▶ RFC, white papers, manuals, ...
- ▶ Sometimes it it difficult to find appropriate sources for hacking-related topics. In this case blogs, forum threads, etc. may be cited.

Just presenting the given literature is NOT enough!

Grading

- ► Paper:
  - ► First version: 25% (30 hours for familiarization with own topic and writing)
  - ► Second version: 25% (30h for refinement)
- ► Talk: 25% (30h for slides and testing the talk)
  - ► Correctness of slides
  - ► Quality of slides (figures, animations, etc.)
  - ► Quality of answers given during questions & answers session
- ► Reviews: 25% (30h for familiarization with text and topic and writing the review)
  - ► Reviews should not be underestimated!
  - ► Most students do not get excellent grades due to mediocre reviews

Picture: https://openclipart.org/detail/191354/good-grade

Influencing factors for grading

- ▶ Observe all deadlines
    - ▶ Adviser meetings are compulsory and have a deadline
    - ▶ Submission of both paper versions and reviews via Moodle
    - ▶ Submission of both slide versions via e-mail & Moodle
    - ▶ Otherwise: Degrading (= malus by 0.3 per day)
- ▶ You get sick and cannot hand in in time?
    - ▶ Contact us as soon as possible + send what you have a.t.m.
    - ▶ We need a medical certificate.
- ▶ First version of paper must be acceptable and submitted
    - ▶ Grade >4.0: Disqualification (course graded as 5.0)
    - ▶ No submission: Disqualification
- ▶ No submission of final paper or reviews
    - ▶ Grade 5.0 for the concerning part but no disqualification

Picture: https://openclipart.org/detail/48349/warning-sign

Influencing factors for grading II

- ▶ Plagiarism
    - ▶ Advisers perform automated and manual checks on plagiarism
    - ▶ Often students give hints on plagiarism in their reviews
    - ▶ In severe cases (cheating): Disqualification & report to examination office
    - ▶ In mild cases (sloppy work): Degrading (0.3 .. 1.0)
- ▶ Introduction to correct citing:
    ⬙ http://oxford.library.emory.edu/research-learning/citation-plagiarism/citing.html

Picture: https://openclipart.org/detail/48349/warning-sign

Course assignment

- ▶ Course assignment handled on dedicated TUM web platform (🌐 http://docmatching.in.tum.de)
  - ▶ You enter your course preference
  - ▶ We enter our student preference
    $\rightarrow$ If you want to be preferred by us put your matriculation number on the sheet handed out.
  - ▶ The system computes a student-optimal matching
- ▶ Only enter preferences for courses you like. You cannot step down from the course afterwards!
- ▶ Being preferred by us will NOT reduce your chance to be accepted for another course you gave a higher preference to.

Topic assignment

If you were assigned to the course:

- ▶ Kickoff meeting at 21.10.2016
- ▶ Presentation of topics
- ▶ You have time till 24.10.16 12:00 to familiarize yourself with topics and express your preferences via Moodle.
- ▶ We compute a student-optimal matching and tell you the result till 26.10.16.

Overview of Last Year's Topics

Handle	Name	Advisor
scan	Scanning the network	Herold
prot	Attacking network protocols	Herold
serv	Attacking (basic) network services	Herold
ipv6	IPv6 security vulnerabilities	Cordeiro
dns	Attacking the domain name system	Naab
voip	The sorry state of VoIP security	Kinkelin
ssl	How secure is TLS?	Kinkelin
nfc	Secure payment over NFC	Totakura
hask	Type-Driven Input Validation	Posselt
tool	Attack/Pentest tools and frameworks	Kinkelin
nids	Defense: Network Intrusion Detection	Herold
hids	Defense: Host Intrusion Detection	Kinkelin

Dates and deadlines

Date	Description
24.06.2016	First info meeting ✓
(early July)	Expression of course preferences
(late July)	Course assignment finished
21.10.2016	Kickoff meeting and topic presentation
Till 24.10.16 12:00	Expression of topic preferences
26.10.16	Topic assignment finished
Till 04.11.16	Meeting with adviser and discussion
Till 22.12.16	Hand in first paper version
Till 08.01.17	Hand in Reviews
7d before talk	Discuss slides with advisor
Till 12.02.17	Hand in final paper version & final slides

Picture: https://openclipart.org/detail/221070/android-calendar-icon

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