



CS 315: Computer Security

Team/Term Project

Fengwei Zhang

General Information

- A research project with 2-5 individuals
 - Building a new system
 - Improving/Re-showing an existing technique/attack
 - Performing a large case study
- Deadlines
 - Project proposals due on **September 26**
 - Project discussion on **September 27**
 - Project presentations are on **December 20 & 27**
 - Project final reports due on **December 27**



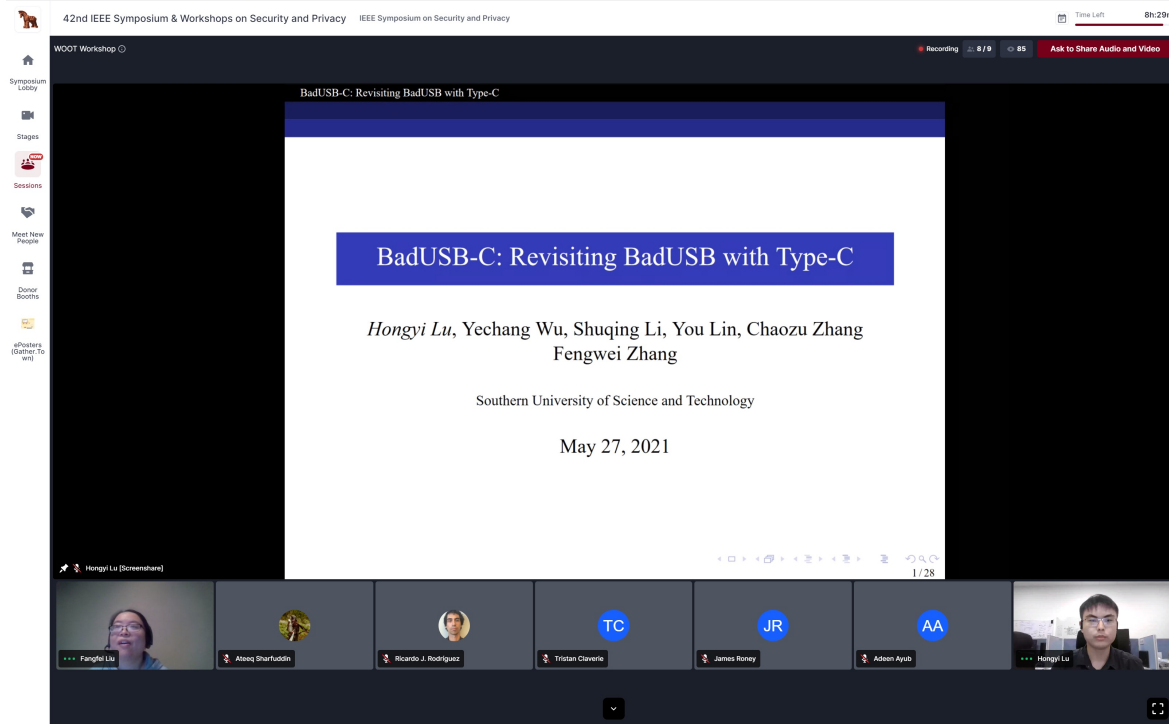
Grading

- Term Project Proposal: 20 points
- Term Project Presentation: 40 points
- Term Project Report: 100 points

Project Topic Examples

<http://cse.sustech.edu.cn/cn/news/view/id/845>

华为采用南科大计算机本科生的成果封堵手机漏洞



Project Topic Examples

- Cold boot attack on Arm architecture (hard)
 - <https://citp.princeton.edu/our-work/memory/>
- Single-instruction stepping of Ninja (medium+)
- System call tracing of Ninja (medium+)
 - <https://fengweiz.github.io/paper/ninja-usenixsecurity17.pdf>

Project Topic Examples

- Defending against buffer-overflow on RISC-V (medium-)
- Out-of-bound checking on RISC-V (medium+)
- Dynamic taint analysis with labelled RISC-V (hard)
 - <https://fengweiz.github.io/paper/seclabel-crvf19-slides.pdf>



Project Topic

- Your own ideas (highly recommended)



Project Proposals

- A two-page description
- Title and author list
- Problem statement
 - Describe what the problem is and why it is important
- Related work
 - Write about state-of-the-art solutions to the problem
- Proposed new solution
 - Describe the plan of your proposed approach. Use diagrams or figures if needed
- Evaluation plan
 - Describe your evaluation plan. Effectiveness and performance. What tools/benchmarks/attacks/experiments? What deliverables?

Project Presentation

- Each project has 15 minutes
- Each Project has 5+ minutes Q&A
- Presentation format may include slides or demo
- Presentation schedule

Project Final Report

- 8 pages and more, use IEEE Latex format:
 - <https://www.ieee.org/conferences/publishing/templates.html>
 - Download by clicking on [Template](#) (ZIP, 700 KB)
 - http://mirrors.cqu.edu.cn/CTAN/macros/latex/contrib/IEEEtran/IEEEtran_HO_WTO.pdf
- May contain the following sections
 - Introduction
 - Related work
 - Background
 - System architecture/System design/Technical approach
 - Implementation
 - Evaluation results
 - Discussion (e.g., limitations)
 - Conclusion and future works
 - References



Bonus

- If your team can submit a paper
- Points: TBA