WILLIAM & MARY
CHARTERED 1693

CSCI 780: IoT Security

Prof. Adwait Nadkarni

Lecture 5

Course Project

- *40% of the course grade*
- We will learn how to conduct security research, and execute a research project in IoT Security.
  - **End Result:** *12 page conference-style research paper (ACM CCS format)*
  - I will provide sample ideas, but there is significant wiggle room
  - An Oakland-style SoK paper would be a *great* idea to learn the idea, synthesize existing research, and propose something new!

Project Milestones

- 40% of course grade (100 points for project total)
  1. *Project Proposal (5/100) (**due Sept 11, 11:59 PM**)*
  2. Related Work (or preliminary literature survey, in case of an SoK) (10/100)
  3. Research Plan (10/100)
  4. Research Artifacts (15/100)
  5. Final Paper (60/100)
- All submissions will be in LaTeX.

Project Choice

- Submit a *Project Proposal* by *Sept 11, 11:59 PM*
  - ***Ordered*** List of *5 unique project* ***ideas (paragraph each)***
  - Group members (if any)
- I will choose the *first feasible idea*, *starting from 1—>5*
  - So, ensure that the ideas are in decreasing order of priority, with the most desired idea first.
- Upload the proposal to Blackboard.

Some tips

- Don’t try to learn some new non-security field (e.g., NLP, compilers)
- Be very realistic about what can be reasonably demonstrated in 1 semester (i.e., ~ 2 months for execution)
- Grade: Based on *novelty*, *depth*, *correctness*, *clarity of presentation*, and *effort.*
- The end-result (a 12-page CCS paper) should reflect *original thought*.

Coming up with a project idea!

- Coming up with *original* ideas seems hard *because it is*
  - However, it is a very rewarding *process*

Finding an idea

- Read some *relevant* papers
  - If this is a new topic area, you must become familiar with the problems, solutions, and terminology of the community.
- Ask the following questions:
  1. What are the ***key problems*** this area addresses?
  2. What are the ***methods/tools*** commonly used?
  3. How do ***your skills*** apply to the problems being addressed?
  4. How are the ***expected changes*** in the larger CS community going to affect this area and its problems?
  5. How is the area ***evolving***?
- Reading tech news helps
- *Don't take things for granted. Ask questions!*