CIS 700/002 : Special Topics : Security of Embedded Systems, Cyber-Physical Systems, and Internet-of-Things

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CIS 700/002: Security of EMBS/CPS/IoT

Department of Computer and Information Science

School of Engineering and Applied Science

University of Pennsylvania

April 7, 2017

Penn Engineering

PRECISE
PENN RESEARCH IN EMBEDDED COMPUTING AND INTEGRATED SYSTEMS ENGINEERING

Today's Class

- Guest speaker: Robert Broberg
  - Cisco Research Center - Security
  - "Enter the world of connected things; an inflection point"

- Project mid-term presentation
  - In-class "rapid-fire" preliminary assessment of device

Penn Engineering

PRECISE

Final Project

- Use tools and insight to assess the security of a commercial device
  - What information is made available?
  - How could this information be exploited?
  - How can these vulnerabilities be patched.

- If you have questions, please email Jim and Insup
  - Don't wait until April 21st.

- Description on course website (under projects)
  - April 7th: Mid-term (TODAY)
  - April 28th : Final Demo

Next Week

- Attacks on devices (that we aren't studying in our hacking)
  - Hijacking an Insulin Pump: Security Attacks and Defenses for a Diabetes Therapy System
    - Yicheng
  - Ghost in the PLC: Designing an Undetectable Programmable Logic Controller Rootkit via Pin Control Attack
    - Omkar
  - Watch the following videos: https://scadahacker.com/howto.html

- Last official week of class next week (April 14).

- Final project demos:
  - Wednesday, May 03, 2017 from 12:00 - 02:00 in TOWN 307

Presentation Order

- Omkar
- Swathi
- Thejas
- Nikheel
- Sangdon
- Hung
- Bipeen
- Junkil
- Dagaen
- Kamenee
- Hitali (next week)