CSE 484 / CSE M 584
Computer Security

TA: Viktor Farkas
vfarkas@cs

Thanks to Franzi Roesner, Adrian Sham, and other contributors from previous quarters
Office Hours

• Monday, 4:30-5:30pm, CSE 654 (Franzi)
• Thursday, 11:30am-12:30pm, CSE 021
• Friday, 2:00-3:00pm, CSE 021
Looking Forward

• Ethics form due **April 6, 5pm**
• Homework 1 is out
  – Current event review and security review
  – Groups of up to 3 (only submit 1)
  – Due April 8, 8pm
Security Reviews

• **Assets**
  – What are we trying to protect? How valuable are those assets?

• **Adversaries**
  – Who might try to attack, and why?

• **Threats**
  – What actions might an adversary take to exploit vulnerabilities?

• **Vulnerabilities**
  – How might the system be weak?

• **Risk**
  – How important are assets? How likely is exploit?

• **Defenses**
  – How might we protect against vulnerabilities?
Practice Security Review

Much like cars, various airplane systems are controlled by computers.

This is especially true for airplanes using ‘fly-by-wire’

Assets, Adversaries, Threats, Vulnerabilities, Risks, Defenses?
Security Reviews

• Assets
  – What are we trying to protect? How valuable are those assets?
• Adversaries
  – Who might try to attack, and why?
• Threats
  – What actions might an adversary take to exploit vulnerabilities?
• Vulnerabilities
  – How might the system be weak?
• Risk
  – How important are assets? How likely is exploit?
• Defenses
  – How might we protect against vulnerabilities?
Security Review

• **Assets** (what should be protected)
  – Lives of passengers
  – Airplane

• **Adversaries** (possible attackers)
  – Terrorists
  – Ground crew
  – Pilot
  – Supplier

• **Threats** (actions by adversaries to exploit system)
  – Physically take control of plane
  – Interfere with electronics of plane
Security Review

• **Vulnerabilities** *(weaknesses of system)*
  – On board WiFi
  – USB connections
  – Bad software

• **Risk** *(how important are assets, how likely is exploit)*
  – High risk asset

• **Defenses**
  – Airport security
  – Air marshal
  – Isolated flight control electronics
In the news

An FBI search warrant states that a cybersecurity professional told an agent he was able to control an aeroplane engine from his seat after hacking the on-board computer system.

The document claims Chris Roberts said he was able to make the plane "climb" and "move sideways" from his seat.

More Practice Security Reviews

• Some ideas for topics:
  – Pacemakers
  – Facebook
  – CSE Building
  – Smartphones
  – Airport security
  – … ?
Feel free to contact us!

cse484-tas@cs.washington.edu