Introduction

CSE 4382-001/5382-001

Secure Programming

Spring 2024

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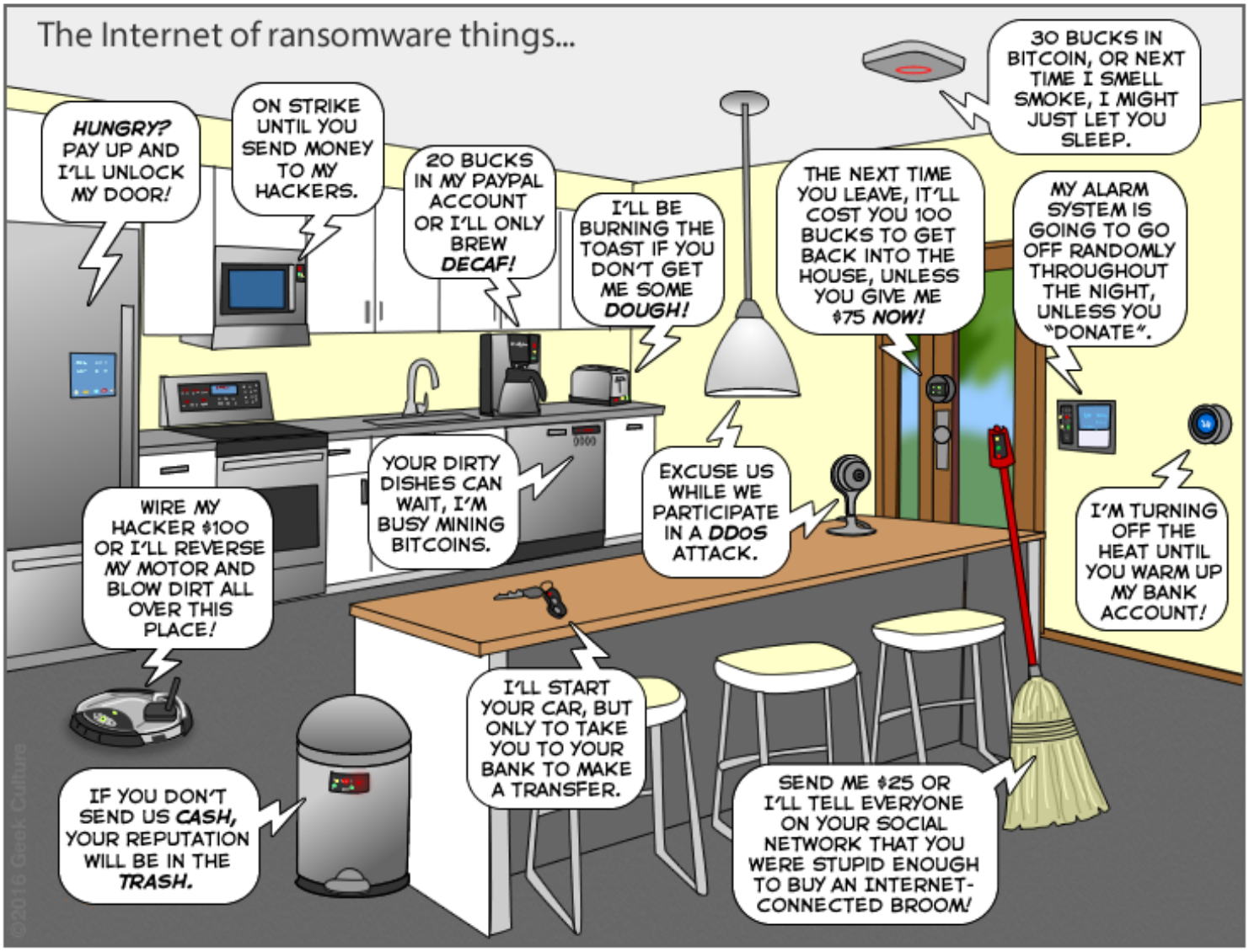

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Thomas “Trey” Jones - Professional

- Education and Certifications
  - B.S. Computer Systems Engineering from University of Arkansas.
  - M.S. in Software Engineering and M.S. in Engineering Management from Southern Methodist University.
  - Certified Information Systems Security Professional (CISSP)
  - Certified Jenkins Engineer (CJE)
  - Certified Ethical Hacker (CEH)
  - Texas A&M / LM Cybersecurity Certification
- ~2 year at Microsoft (Nov 2021-Present)
  - Sr. Security Software Engineer on Personnel Portal Team in Azure Global
- 20 years at Lockheed Martin (2001-2021)
  - Embedded Software Engineering in Mission Systems (F-16)
  - Software Build Automation (F-16, F-35, Skunk Works®)
  - Cybersecurity applied to embedded systems (Skunk Works®)
- Other jobs (1999-2001)
  - Dell Computer Corporation
  - Walmart Stores – Information Systems Division

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Thomas “Trey” Jones - Personal

- Originally from Texarkana, Arkansas.
- Have 11 yr old identical twin boys.
- Interests
  - Photography (all types)
  - Play French Horn in church orchestra
    - Was in marching band from Jr. High through College
  - PC gaming
  - Reading
  - Travel
  - Golf (when I have time to play)
  - Teaching and Learning
  - Tinkering with enterprise IT and embedded systems
  - Hosting web sites

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Semester Learning Objectives

- Basics of Information Security
- Understanding of secure software development lifecycle.
- Understanding of software vulnerabilities and how to avoid them.
- Understanding of how attackers can exploit vulnerabilities.
- Understanding of how static code analysis is used as part of secure development lifecycle.
- Additional Topics
  - Cryptography
  - Supply Chain Risk Management
  - Mobile Application Security
  - Container Security
  - API Security

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Class Expectations

- Lectures will incorporate "hands on" demonstrations and explanations of topics to the extent possible.
- Students are encouraged to ask questions.
- Professor will invite students to interact during discussions periodically.
- Many topics will have individual lab assignments to further develop student comprehension and exploration.
  - These are not for a grade, but for students to gain additional insight.
  - They are highly recommended as they will help in preparation for quizzes.

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References for this Class

- "Computer Security: A Hands-On Approach", Third Edition, Wenliang Du (May 2022), ISBN: 978-1-7330039-5-7 **[Our Textbook]**
- "Secure Programming with Static Analysis", Brian Chess, Jacob West, Addison-Wesley Professional (July 9, 2007), ISBN-13: 978-0321424778 **[Optional Textbook]**
- "Foundations of Security: What Every Programmer Needs to Know", Neil Daswani, Christoph Kern, and Anita Kesavan, Apress (2007), ISBN: 978-1-59059-784-2
- "Software Security: Building Security In", Gary McGraw, Addison-Wesley Professional: 1st edition (February 2, 2006), ISBN-13: 978-0321356703
- "24 Deadly Sins of Software Security: Programming Flaws and How to Fix Them", Michael Howard, David LeBlanc, John Viega, McGraw-Hill Education (September 24, 2009), ISBN-13: 978-0071626750
- "Writing Solid Code", Steve Maguire, GreydenPress, LLC; 2nd edition (2013), ISBN-13: 978-1570740558

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