Welcome to CS331

Agenda for the First Day of Class

► Who am I?
► Why take this course?
► Keywords of this class
► Syllabus and grading polices
► Introducing Hackerone
► Case Study - Russian Hackers’ Activities in the 2016 US Elections
Who am I?

- Sports Fan, like watching & playing volleyball, soccer, basketball.
- Favorite TV show: Friends, Prison Break.
- Favorite TV characters: Rachel Green in Friends, Michael Scofield in Prison Break
Who am I?

- Earned my Ph.D. degree in Jan 2016, earned my bachelor degree in 2005.
- Joined BSU at Jan 2016.
- Favorite Company: Intel - my first employer; Least Favorite company: Apple.
- Expertise: Operating Systems, Computer Security
- Course I teach: CS331, CS333, CS453, CS332 (maybe)
Why take this course?

image source: @SwiftOnSecurity on twitter
Why take this course?

- Slogan: Taking my class is like taking drugs, I will get you addicted
- Security is important, it affects every one, individuals, organizations and governments.
- Probably the only course at BSU teach you make money instantly
Keywords of This Class
Ideal Learning Environment

- Sharing
- Authentic
- Emotional
- Active
- Variety
- Peaceful
- Laugh
- Doing
- Experience
- Participate
- Imagination
- Alone
- Small Groups
- Mistakes OK
- Curiosity
- Visual
- Conversation
- Kind Teacher
- No Teacher
- Discussion
- Safe
- Warm
- Motivated
- Smile
- Dream
- Cooperation
- Confidence
- Happy
- Fresh Air
Ideal Learning Environment

Sharing, Authentic, Emotional, Active, Variety, Peaceful, Laugh, Doing, Experience, Participate, Imagination, Alone, Small Groups, Mistakes OK, Curiosity, Visual, Conversation, Kind Teacher, No Teacher, Discussion, Safe, Warm, Motivated, Smile, Dream, Cooperation, Confidence, Happy, Fresh Air.
Actual Learning Experience in School

Boring, Sleepy, Butt Hurts, Long, Silence, Tests, Passive, Waste of time, Reading comics, Teacher Talks, Only Listening, Forget everything, Don’t understand why I have to know material?

Watching movies on cellphone, Not Free, Playing PSP, Taking notes, I felt stupid.
Actual Learning Experience in School

Bridge the Gap between Ideal and Real Learning Environment

- Variety
- Happy & Smile & Curiosity
- Active & Doing & Participate & Sharing & Cooperation & Motivated
Stop passive listening

- Lectures
- Case studies with student discussion: monthly security news review
- Student presentation
- Play games
- Make the class entertaining - Students who make fun of the instructor in their presentations, will get extra points.
- Select interesting and hot topics
Course project is very special

- **Active, Doing, Participate:** Students will be instructed to participate in various bug bounty programs - hacking real world websites legitimately.

- **Sharing, Cooperation, Small Groups:** Students need to share their hacking experience in class - alone, or small groups.

- **Motivated:** The first student/group who finds a valid vulnerability and acknowledged by the bug bounty program officials will get 10 extra points.

- **Motivated:** If by the last day of this class, no one has found any valid vulnerabilities, the instructor will randomly (by running a random number generator in class) pick up one student and give him $50 gift card - Amazon gift card or WinCo gift card.
http://cs.boisestate.edu/~jxiao/cs331/syllabus.pdf
Participation 10% - Rules

- Rule.1, You are not required to attend a class if there is no student presentations (student presentations schedules will be announced soon).
- Rule.2, Everybody can miss <=3 (i.e., 0,1,2,3) classes when there are student presentations.
- Rule.3, If you miss 4 or more than 4 classes when there are student presentations, your participation points will be earned by playing the whisper challenge: see this: The Whisper Challenge with Kristen Stewart https://www.youtube.com/watch?v=pwkucl7ePc. You will be given 4 minutes, each correctly guessed term/phrase will earn you 1 point. (The maximum are 10 points)
One-on-One meeting with the Instructor 5% - Rules

- The instructor will schedule 1:1 meeting with each student twice this semester.

- Can talk about anything, including but not limited to: instructor offers feedbacks to students, students provide feedbacks to the instructor, instructor discuss course project with students, instructor offers advices to students with respect to career development, job searching, industry experience, applying for graduate school, etc.

- Every student belongs to this class, I care about your success.
Introducing Hackerone

- "a vulnerability disclosure company based in San Francisco, California, which established a bug bounty platform that connects businesses with security researchers"
- "provides its service to companies such as Twitter, Slack, Adobe, Yahoo, LinkedIn, GitHub and Airbnb" - wikipedia.
- https://hackerone.com/
Twitter Accounts to Follow

- HackerOne’s twitter account: @Hacker0x01
- Bugcrowd’s twitter account: @Bugcrowd
Case Study - Russian Hackers’ Activities in the 2016 US Elections

- John Podesta’s Email Hacking
- Russian Hackers’ Activities
References

- Presentation tips for teachers (Never give a boring lecture again!) - Garr Reynolds@TEDxOsaka 2012
- DNI: Putin Led Cyber, Propaganda Effort to Elect Trump, Denigrate Clinton
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- The phishing email sent to John Podesta
  https://wikileaks.org/podesta-emails/emailid/36355
- THE U.S. GOVERNMENT THINKS THOUSANDS OF RUSSIAN HACKERS MAY BE READING MY BLOG. THEY AREN’T. - Micah Lee, 2017
  https://theintercept.com/2017/01/04/the-u-s-government-thinks-thousands-of-russian-hackers-
References

- The Joint Analysis Report (JAR) released by DHS and FBI

- Assessing Russian Activities and Intentions in Recent US Elections - FBI, CIA, NSA

- The Perfect Weapon: How Russian Cyberpower Invaded the U.S. - The New York Times

- FACT SHEET: Actions in Response to Russian Malicious Cyber Activity and Harassment - The White House