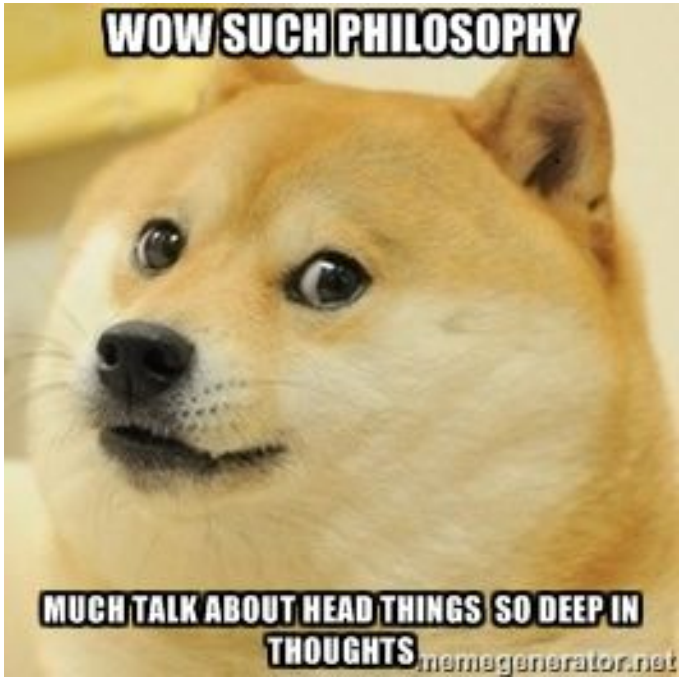
CS 563 - Advanced Computer Security:

Topic Area Discussion, Administrative Stuff

Professor Adam Bates

Fall 2018

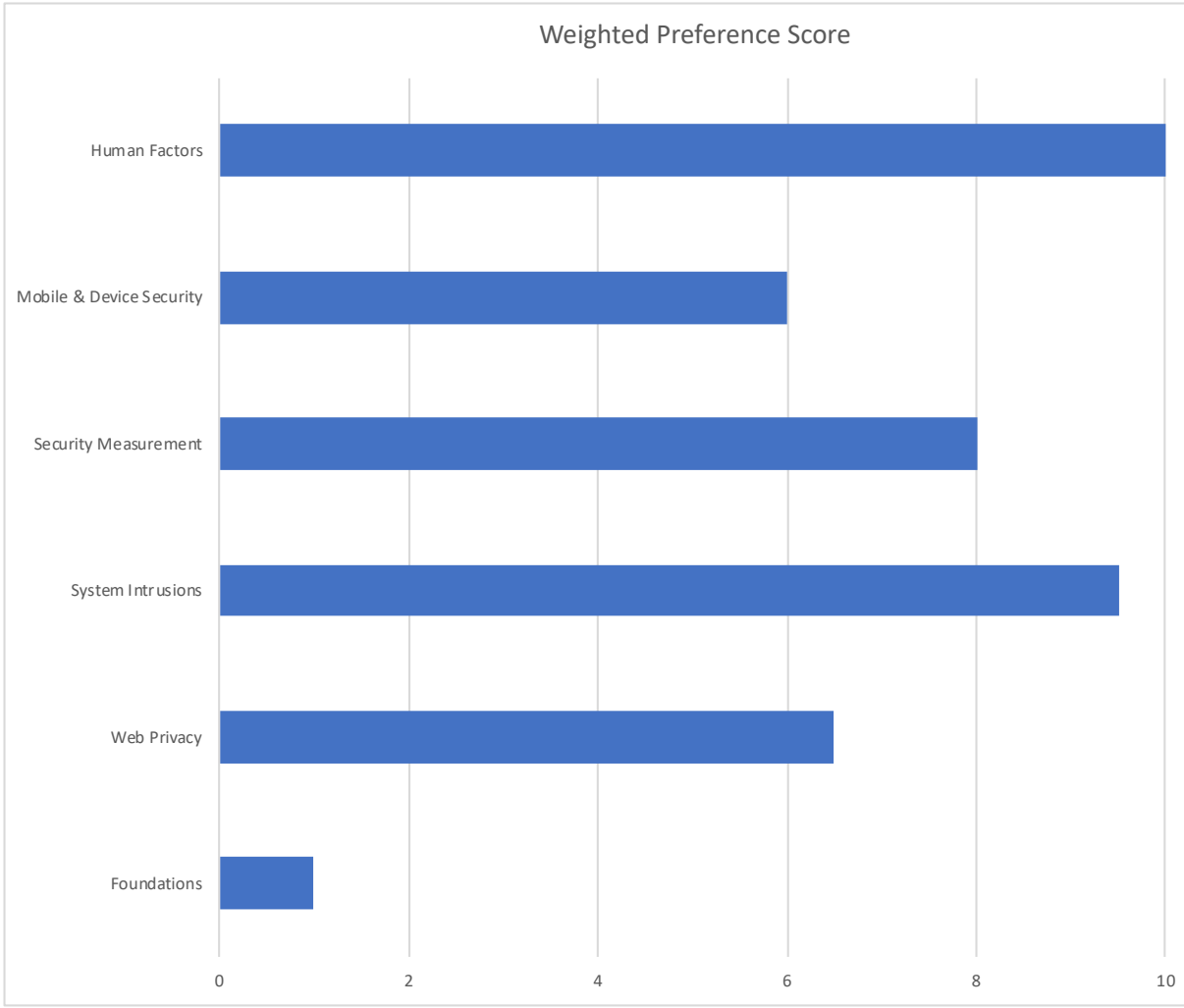
- Which topic areas were the most popular?
  - *How should I define popular?*
  - *How should I define topic area?*
- Tried a couple of different strategies



Weighted Preferences

Preference #1 = +1.0 points
Preference #2 = +0.5 points
Drop Pref 2 if duplicate

1) Human Factors
2) System Intrusions
3) Measurement



"Ranked Choice" Voting

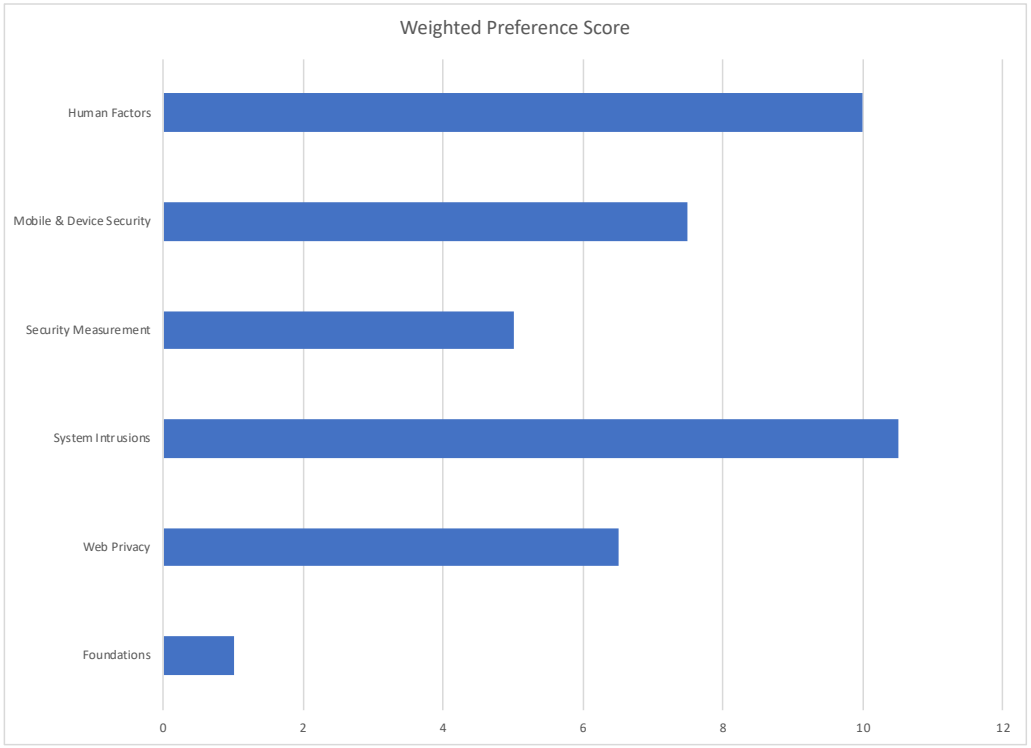
- Ranked choice algorithms can handle partially complete ballots (i.e., 2 votes not 6). Neat!
- Round #1 winner: Human Factors
  - *Remove ballots that ranked Human Factors…*
- Round #2 winner: System Intrusions
  - *Remove ballots that ranked System Intrusions…*
- Round #3 winner: Security Measurement, but Mobile much closer
- Number of students that didn't rank either of these topics… one (Sorry Umar!)

Validation Step

- Re-sort projects not on self-reported topic area but by expert interpretation of described topic area
- Finding: People weren't actually pitching measurement studies in the measurement area

New rankings:

1) System Intrusions
2) Human Factors
3) Mobile & Device
4) Web



"Ranked Choice" Voting

- Rerun ranked choice
- Round #1 winner: System Intrusions
  - *Remove ballots that ranked System Intrusions…*
- Round #2 winner: Human Factors
  - *Remove ballots that ranked Human Factors…*
- Round #3 winner: Mobile & Device Security
- Number of students that didn't rank either of these topics… two, both of which were (arguably) in web

Final Topic Areas

1. Human Factors
2. System Intrusions
3. Device & Web Security (spans Mobile Sec + Web Priv)

Everyone pitched a project that fell into these categories.

Next week

- Needed some victims for first presentations…
- Victim Selection Criteria
  - Preference proposals were salient
  - Your reference included an interesting paper selection unlike those we've already read
  - I thought you could handle the short notice

October 3rd

- October 3rd
  - Presenter #1: Mohammad Noureddine (Sys Intru)
    - "RAIN: Refinable attack investigation with on-demand inter-process information flow tracking" (CCS'17)
  - Presenter #2: Joshua Reynolds (Human Factors)
    - "Rethinking Connection Security Indicators" (SOUPS'16)

October 5th

- October 5th
  - Presenter #1: Kevin Liao (Human Factors)
    - "Stack Overflow Considered Harmful? the impact of copy&paste on android application security." (Oakland'17)
  - Presenter #2: Yasha Mostofi (Mobile & Web)
    - "Won't Somebody Think of the Children?" Examining COPPA Compliance at Scale (PETS'18)

Paper Presentations

- Responsibilities of the Presenter:
  - Create a ~25 minute presentation on the topic
    - Objective is to generate ***discussion!***
    - Assigned paper = jumping off point for the general topic
    - Be prepared to adapt if discussion is lively!
  - Your total time slot is ~40 minutes
  - Borrowing from conference slide decks is OK, but you will need to do more… the goals of your talk are different.
  - Email slides to me at least one day before class for approval.

Paper Presentations

Generic Presentation Advice:

- Requires the technical preparation necessary for writing a summary, but also much more!
- Audience engagement is vital
    - Construct a narrative
    - Engage the audience
    - Identify an insight
    - Argue a point
    - Extend an argument
- Relate what you've learned, and what strikes you about the work: be engaged with the content

Paper Presentations

Generic Presentation Advice:

- Keep your points simple and repeat key insights
- Know the jargon that you will be using
- Present a narrative - tell a story
- Pace the talk so that you're not rushing or dragging
- Think about the goals of your presentation
  - Leave audience with the high points in their head
- Practice and prepare!
- Read http://pages.cs.wisc.edu/~markhill/conference-talk.html

Does my term project need to be in one of these areas?

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Preference Proposal Feedback

- Coming today/tomorrow
- No one is obligated to work on the project(s) they initially proposed
- We might suggest related ideas that we think you would be interested in.

How to do Human Factors?

- Human Factors research requires human subjects… right?
- IRB presents a challenge
- Design study stimuli and analysis plan, synthesize data yourself, analyze the synthetic data.
- If project is promising, we could potentially submit a protocol at the end of the semester…

Hanging out for project/presentation questions now