

*the real talk
today*

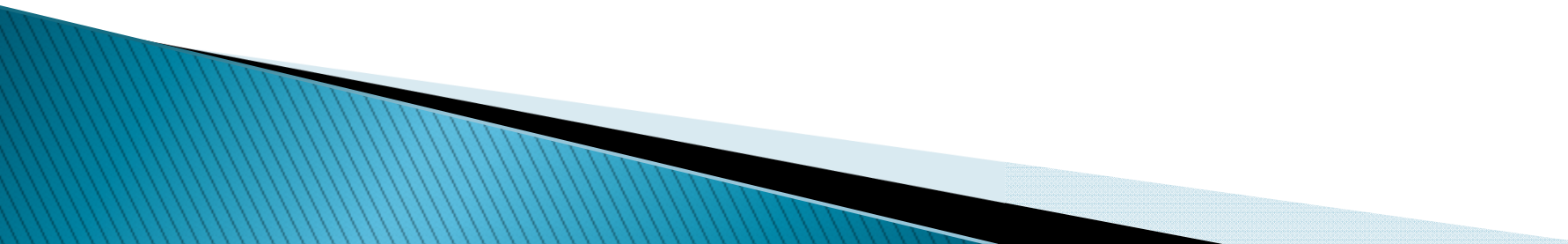
Zoom – Security and Mechanics (tricks and tips)

Chase Cotton
UD Electrical and Computer Engineering
EmPOWER meeting 05/28/2020

Zoom – redeeming social value

- ▶ first video conferencing application that DID NOT REQUIRE ALL YOU GUESTS TO CREATE ACCOUNTS ON THE SYSTEM (WOW!)
- ▶ thus thus, like a phone call, or a text chat, you can have an instant global video meeting with anyone
- ▶ outstanding video and audio quality
- ▶ good human factors
- ▶ little down-side (especially since free)

Zoom – some background

- ▶ a Zoom–mostly talk (as UD is a Zoom customer)
 - ▶ me, on Zoom since 2013
 - '13–'14 ran a 15 person, 24x7 global software effort
 - ▶ free (a la Google) – 40 minute, 25 person mtgs
 - ▶ Pro (\$15/mo) – unlimited, 100 person
 - ▶ your UD account – unlimited, 200 person, cloud recording (separate files enhances for editing)
 - ▶ UD cloud – excellent auto–transcription of audio (for the non–touch typists among us)
- 

security

- ▶ zoombombing – always enable guest authentication – limit access to meeting ID (e.g., your personal meeting ID)
- ▶ COVID-19 induced success disaster – from 10 to 200M customers
- ▶ some months ago, market cap greater than Marriott (hotels)
- ▶ created by ex-Cisco WebEx guys
- ▶ (IMHO) way ahead of all competitors
- ▶ ~7 weeks ago – security explosion – but not significantly different than other players in the industry
- ▶ ~6 weeks ago – significant new security options (a la Facebook)
- ▶ recently acquired a security company to enhance end-to-end encryption

danger Will Robinson ...

- ▶ if you are screen sharing and demonstrating applications on your desktop
 - be aware, your desktop may be visible (e.g., NSFW or your email list page)
 - you may forget and log into one of your accounts and your account name and possibly the number of characters in your password will be revealed; IF YOU ARE IN AQ HURRY, YOU MIGHT EVEN TYPE YOUR PASSWORD IN THE CLEAR (e.g., typing your password in the userid field)

some legal issues

- ▶ be conscious of recorded meetings with one-to-one conversations like discussions before your talk/lecture and following your talk/lecture
- ▶ understand wiretap laws (1-party & 2-party states)
- ▶ there is no safety against being recorded – audio is dead simple – anyone with a smartphone can do it watching your call
- ▶ video recording is also pretty easy as well for someone with a video editor (e.g. camtasia or other screen recording open-source tool), or possibly even the VLC application

mechanics (tips/tricks)

- ▶ get a separate webcam (cam in laptop screen too restrictive); make sure is HD (1040p); this can double as doc cam
- ▶ get a doc cam if you like drawing pictures for your audience (get 4k resolution)
- ▶ use another video application (e.g. VLC) to display your doc cam on your screen – then you won't make the mistake of not switching back to your “shared” screen
- ▶ if typically recording, train your audience (class) to yell at you if they do not see the “red” recording dot
- ▶ a smartphone can be used as a secondary “walk-a-round” camera or microphone (my software team in New Zealand used to walk out in their backyard and show me their chickens)

mechanics (tips/tricks), (cont.)

- ▶ always assign a co-host (or two) to the meeting so the meeting survives if you lose Internet connectivity
- ▶ use QR codes (permanent, e.g. Chrome app), or shortened URLs (e.g. UD short URLs) – audience can quickly take smartphone images (tell them when talk starts)
- ▶ when co-hosting ... NEVER CLICK "END MEETING", just CLICK ::LEAVE MEETING"

mechanics (tips/tricks), (cont.)

- ▶ bad zoom ... zoom does almost everything well EXCEPT when more than one zoom participant is in the same room – ONLY ONE machine can have microphone and speakers active (else you will get feedback)
- ▶ digital signal processing of zoom audio is wonderful – easily mutes constant (stationary) noises such as a fan
- ▶ but ensure you disable "to gain" else when running long-running meetings, your peers will be able to hear you clearly several rooms and floors away

mechanics (tips/tricks), (cont.)

- ▶ if noisy environment, get a cheap lavalere mic to plug into your laptop – your audio quality will dramatically improve
- ▶ if you teach in a classroom, and/or like to draw at the board, use a wireless microphone
- ▶ always adjust you microphone gain (windows) – they vary widely
- ▶ may have warm, inviting setting/background (but a as a student, or a geek like me, maybe not) --- but green screen (cheap on amazon)
- ▶ re: green screen --- can use own photos (from the Internet) --- be creative, my pink COVID-19, rocket, department, etc.
- ▶ if you are doing complex screen demos, set up a 2nd laptop to use as a “monitor” so you can exactly see what your guests are seeing

mechanics (tips/tricks), (cont.)

- ▶ always raise chat box
- ▶ always raise participants box
- ▶ mute all the audience or not?
- ▶ having a helper is good – make co-host
- ▶ call statrs up if you loose Internet connectivity
- ▶ the can watch chat and interrupt you
- ▶ they can help you pace your talk (15 min, 10 min left, 5 min left, etc.)
- ▶ or research stuff for you (hey bob, look up how to "blah blah blah" while you continue the talk