

2023-04-23

Present: Steven, Andrew, Bryce, Bluehat, Stoldal, Mark, Tyler, Christian, Emma, Will, Aaron C, Fiz, Kevin L, Kevin S, Gillian, Connor, Tay, Jason, Kat, Aaron S, Rob S, Bunny, Garth, Stumpo, Debra, Riley, Cralls, Jarrett

- Debra: mostly an exploratory conversation since we have some money to play with. Came up for me from a security/access control perspective.
- Bryce: have definitely discussed possibility in circuitboards
- Stoldal: are we trying to solve an actual problem?
 - Debra: kind of? I have ideas about how this could be helpful but we certainly don't NEED them
- Bunny: we want to know where people are and scan them into places. E.g. challenges w/ deli ticket, tournaments, etc.
- Mark: started to look into it technically—900mhz system, 7m of read range. Differentiated from barcodes because it allows us to know who is in a specific area. E.g. sometimes human error at reg results in people not getting correctly checked in—would tell people to return to reg to fix this. If we know a badge is invalid, we can find them wandering around.
- Kevin: how long does it take someone to clone them or track someone using their badge? Will we introduce a stalker problem?
- Tyler: more modern RFID tags have public/private parts
- Mark: tags we're currently looking at are dirt cheap. No PII unless you cross reference with reg. Kevin's concern is similar to tracking someone from their cell phone (?)
- Stoldal: these aren't things that are actively transmitting. You'd have to have a pretty powerful antenna or follow someone very closely
- Aaron C: also need to consider perception from general membership that they're being tagged/tracked
- Fiz: could be useful from a COVID tracking perspective as well
- Gillian: perception/use of long vs short range are very different; most people are used to the tap kind (room keys, public transit, etc.). Slows down the process a little bit since you have to tap and see but if we can speed that up, would be great.
- Stoldal: yeah you need like 5 stations to prevent bottlenecks
- Aaron S: optics are very different than the actual security so you have to treat them as different problems. Can't necessarily explain it to attendees.
- Kat: tapping for an 18+ panel would be useful
- Mark: we can split the difference between the different technology; we could get short range tags but long range readers (like library gates). If we see an attendee with one of those, we know there's a concern 😊
- Bryce: we could create a techops surveillance state. If someone scans a badge in two places that they can't get to by running, could flag both scans and have someone manually check. Also connect with Hubspot for big data. What panels did people really enjoy, which ones did people leave halfway through, etc.

- Steven: do we have a problem with badge duping? Deb: not really, or they're getting away with it at least lol. Kevin: occasionally someone reports a badge as lost and then someone finds it or continues using it/hands it off.
- Andrew: If we are using badges and gate access, is there a concern about DoS attacks? Stoldal: not really? we're getting into the technical details, definitely doable but takes effort and time
- Will: are the gates turnstile? A: probably not? Depends on fire marshal
- Tyler: most people don't know the shape of the badges until they arrive.
- Garth: make the tapping a positive for people. For metrics for panel popularity for example—like the smiley face/frowny face feedback stations. Noticing connections we might be unaware of.
- Kevin L: Jam clinic would like to use this for opt-in queueing where people note their instrument, etc. and we can connect people who might be looking for a specific thing. Currently use whiteboards right now.
- Riley: had an idea to have people tap into jumpods and have it display their time limit. We have an issue with people not giving up their spot. Orchestra requires rehearsal attendance in order to perform—if people are tagging in, that's easier. Taggable RFID for sections so they can more easily direct players to their section leaders.
 - Mark: is there a reason barcodes don't work for this?
 - Kevin: mostly ease of use.
- Tyler: could RFID badges be written to/read from? Mark: not the ones we're currently looking at, but we could.
- Kevin L: do the barcodes allow you to pull names/PII or no? Mark: yes you can query the Uber database if you have the right access.
- Emma: scavenger hunt idea, you've visited x% of areas, congrats you did it
- Bunny: could potentially cut down on theft in the expo hall. For higher value games/controllers, we could put tags on those. MIVS has had problems losing stuff overnight. We can't track who took it but we know these badges left at the same time as this equipment.
- Gillian: type of RFID tags that are useful for inventory control vs. human identification are two different things. They're related but we wouldn't automatically get both.
- Kat: whatever we do for people may have to have extra layers of security.
- Gillian: if you're using the human system for check-in/out, could work for inventory control as well like shoplifting alarms
- Tyler: notes that access to info in Uber is logged, so we should know if people are accessing stuff they shouldn't
- Dave: stuff coming back to the warehouse in the same condition it left—would be cool to be able to group stuff together/know where stuff ended up.
- Kevin S: again, two different systems/concerns here with stuff & people. I have a laundry list of badge changes that would make my job easier that has nothing to do with RFID.
- Bryce: third use case, swadges has wanted to do an AR game for awhile. DS download play, if you show up then you get a free Pokemon, etc. Haven't had justification for spending that much but if we're already placing an order, could add an extra 20 to scatter around the event.

- Steven: if only people paying extra for a swadge get to access that content, just something to be mindful of.
- Tyler: has always had an idea of having the swadge be the badge if you bought one, have the barcode with identifying info etc.
- Aaron S: wouldn't be super reliable, battery concerns, etc.
- Kat: works at a library, we don't know that there is an issue unless/until someone scans their card.
- Taylor: lot of great uses outside of security that we've been hearing. But from a public safety perspective, I could potentially get someone's badge number/info easier if they're incapacitated or gross.
- Fiz: for a lot of these use cases, barcodes already solve these problems. Haven't heard a reason beyond "it'll be fun."
- Stoldal: barcode scanning can be very fast. It sounds like people need more access to data and knowing what they want to do with that data.
- Mark: best security implementation is the reg case which we don't get with barcodes.
- Rob S: passive scanning as you go into rooms for metrics is actually very useful.
- Bunny: agreed—analytics would be huge. Being able to track how space is being used, what things attendees are most interested in, etc.
- Fiz: if we want to continue this convo, where would we do it?
 - Mark will create a public channel
- Kat: I don't want to feel like I can't carry my badge around because I'll get tracked/stalked. Unless we can 99% let people know that this won't contribute to that problem, I don't feel comfortable implementing RFID tracking of people.
- Mark: I would be comfortable saying that percentage.
- Gillian: I see the potential use case for both RFID and barcodes. Barcodes for cheap scanning, low speed, check-in/check-out use cases. RFID is much faster in practice.
- Aaron S: there's a gradient of security risk and we can make choices that make security concerns less likely (like spending more money). But everyone is trackable right now, we wouldn't really be making that worse.
- Steven: generally not a security convention. There's a liability concern for the event, but overall wouldn't consider MAG to be at especially high risk here.

CHAT LOG

You

12:05 PM

I have put nothing on these but notes:

<https://docs.google.com/document/d/1JlitJYtLsshbOreqdwYU1tEh85jT1yzG22eUTfIZhvA/edit>

Andrew Bovill

12:07 PM

track all of the people all of the time! (within reason)

Bluehat Dave

12:13 PM

What does an RFID reader look like? I.e. how hard is it to carry around compared to a barcode reader? Could I use my phone?

Steven Barbaro

12:14 PM

long range requires a panel antenna, looks a bit goofy but can be hidden in a bag

Bluehat Dave

12:15 PM

OTOH, we're not handing out cell phones.

...unless we build one into a swadge.

Steven Barbaro

12:16 PM

most cellphones support mac randomization

different threat landscape, focusing more on rf signature, which applies to either transmitter type

Andrew Bovill

12:17 PM

how close would you have to get to an individual tag to differentiate it from all the other tags in the area?

You

12:17 PM

thanks for hand raise, we heard that and will get to you shortly

(wasn't looking before sorry!)

Andrew Bovill

12:17 PM

most of my question was just asked :)

You

12:17 PM

ah ok!

Andrew Bovill

12:22 PM

please deb, raise your hand if you want to talk ;)

can't hear the question on stream

Andrew Bovill

12:24 PM

it got better halfway through

Bluehat Dave

12:24 PM

Techops hasn't already?

[joking]

Steven Barbaro

12:25 PM

has badge duping been identified as a real concern at mag?

Andrew Bovill

12:26 PM

If we are using badges and gate access, is there a concern about DoS attacks?

w/ fake badges (invalid, fake badges)

Steven Barbaro

12:28 PM

not really, it will likely just slow the lines down

Bryce Browner

12:29 PM

if we use a human checking for physical badge-looking object as well as an RFID scanner, we shouldn't lose out on at-door security with the switch

Bryce Browner

12:31 PM

yeah that covers what i just said :P

Steven Barbaro

12:32 PM

i can imagine this would slow security/safety response if they get stuck trying to badge in especially to the expo hall or other popular events

Steven Barbaro

12:38 PM

Radio-based badges have been a thing at events for a while now without too much concern. TBF, we're already running ESP32s/ESP2166s on our recent swadges and defcon has had some kind of radio on most recent badges. Has anyone from leadership/techops discussed this implementation with other events to see what worked and what pain points were?

Steven Barbaro

12:39 PM

one compensating control could be to use a more uncommon radio interface, such as low-power piezo antennas or ultra high frequency strips

You

12:40 PM

seen, 1m

Bluehat Dave

12:40 PM

+1

Bluehat Dave

12:45 PM

"Tag all the huskies"?

Steven Barbaro

12:46 PM

kinda already trying to do that

Bluehat Dave

12:46 PM

+1

Steven Barbaro

12:46 PM

long range tags are proprietary garbage and cheap readers run windows mobile from the 1800s

Steven Barbaro

12:52 PM

Imao this is a successful enough solution there's a business dedicated to doing this for fan conventions

<https://www.idcband.com/en-us/shop-by-use/comic-conventions/>

You

12:53 PM

oh completely unsurprised by that haha

thank you! I will be copying chat into the notes too

Andrew Bovill

12:53 PM

BIGGER LASERS!

Steven Barbaro

12:53 PM

mmmm optical scanners

You

1:02 PM

any other comments from y'all?

Steven Barbaro

1:02 PM

yes, sec

Bryce Browner

1:02 PM

what thaeli said is very important - the speed of scanning can make something go from wildly impractical to completely practical, like bad actor tracking, metrics, better at-door badge auth, etc. A barcode could be used to do this, but would require a turnstile or human watching them scan it, and would create LOOONG lines

Bluehat Dave

1:02 PM

I'm good. TY

Bryce Browner

1:03 PM

saying we shouldn't use a system at all if it could theoretically be used for bad things is like saying we shouldn't have magTV because it makes some people uncomfortable to record them, or that we shouldn't allow cell phones because they can be used to stalk people

Bluehat Dave

1:04 PM

Let's not forget that we do need to be cognizant of bad actors doing these things, however. Please.

Bryce Browner

1:04 PM

i understand the instinct to avoid it since we've made it sound super scary in this session, but like mark said it's a 99.9% thing

You

1:04 PM

yeah I agree

Bryce Browner

1:04 PM

it isn't something to be dismissed, to be sure

Andrew Bovill

1:04 PM

ty!

Bluehat Dave

1:04 PM

+1

TY!

Bryce Browner

1:05 PM

thanks all!