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WHAT WE WILL TALK ABOUT

• Intro to Mobile ID
• Survey says...
• Mark Brown of Vanderbilt will talk about their mobile journey
• Survey of Mobile ID technology and products
Which ID technologies are on your campus?

![Bar graph showing the distribution of ID technologies on campuses.]

- Barcode: 35%
- Magnetic Stripe: 21%
- Low-frequency prox: 11%
- Sony FeliCa: 0%
- iCLASS: 12%
- MIFARE Classic: 9%
- DESFire EV1/2: 4%
- Seos: 5%
- Mobile ID: 5%
Biggest challenge with your PACS

- Nearing end of life: 10%
- Missing features in new products: 17%
- Need to improve user experience: 41%
- Security vulnerabilities: 22%
- Lack of data insight: 10%
Most inconvenient aspects of PACS

- Not integrated with campus systems: 15
- Can't use mobile: 23
- Difficult to use: 6
- Multiple credentials required: 8
- Physically report for new credentials: 12
Percent of lost access ID cards each year

- < 10%: 15%
- 10 - 20%: 22%
- 21 - 49%: 29%
- 50% and more: 2%
- Not sure: 32%
Drivers for new PACS

- Improve user experience: 23%
- Option to improve security: 15%
- Comply with regulations or policies: 1%
- New facilities: 11%
- Parents want more security: 1%
- End of life of existing system: 7%
- New products have new features: 16%
- Easier administration: 12%
- Better integration with other campus systems: 15%
Biggest obstacle to upgrade of PACS

- **Cost**: 60%
- **Disruption of daily operations**: 14%
- **No good options available**: 5%
- **Learning a new system**: 12%
- **Lack of good business reasons**: 9%
Order by importance

1st
Mobile access

2nd
Meal plans

3rd
Network access

4th
POS / cashless vending

5th
Secure print

6th
Off-campus spending
VANDERBILT UNIVERSITY AND MOBILE ID

Mark Brown
SURVEY OF MOBILE RIGHT NOW AND WHAT YOU CAN DO RIGHT NOW

Or at least, some options to consider
• BLE and NFC credentials
  – BLE only on iPhone
HID MOBILE

- HID Mobile ID portal (Origo) business model:
  - New subscription portal
  - Credentials can be pulled back from phones
    - Expired, lost, revoked
  - Old model - one-time credential purchase
    - No replacement credentials
    - Losing or replacing your phone requires new credential
  - New model
    - Annual subscription
    - Credential per cardholder lasts all year, regardless
HID READERS FOR MOBILE

• Readers are ordered with BLE modules
  – They can also be added later
• HID Reader Manager app for phones
  – No more flash cards!
• BLE and NFC, one or both
• BLE up to 8 ft. – good for parking
  – Can be dialed down to short range, or turned off
• Runs on both phone OS
Technically, NFC refers to using the secure element tied to the NFC chip in a mobile device.

In 2013, Google introduced (Host Card Emulation) as a pretty secure way to store data in phone storage:

- Not actually on the NFC chip, which the phone service providers (Verizon, ATT) had locked down for their own use
  - Which never actually happened
- Does iPhone use HCE too?

BLE stores encrypted data (ID number) in phone storage, which remains encrypted until it hits the reader.
Unique encryption key for each site or institution
  - In both credentials and readers

Keys
  - Encryption key is like a password that protects data
  - Any data can be encrypted
  - Key has to be known by reader

Mobile credentials and readers can be even less interoperable than contactless smart cards
  - But phones can carry multiple credential apps
ALLEGION SCHLAGE MOBILE

- Introduced in 2013
- NFC on Android only
- Works on Schlage locks and wall-mount readers
- Schlage NDE and LE locks have BLE
  - Only for configuration and updates with mobile device
  - Not for access credentials
  - Access is by cards - prox, MIFARE, DESFire
APPLE AND BLACKBOARD

- Only Blackboard has access to Apple NFC
  - NFC only, no BLE
  - Apple credentials only work on Blackboard readers
    - Encryption key

- Rumor of full compliance across campus
  - University provides properly configured NFC readers everywhere cards are read
  - This solves a lot of interoperability problems!

- NDA...
SAFETRUST

- Mobile app with BLE
- Sabre Decal
  - Converts Bluetooth to prox signal
- Sabre replacement reader covers
  - Turn almost any legacy reader into BLE mobile
  - Prox, iCLASS
- Issuance portal with additional features
  - Tracking of mobile credential use
    - Geo, time, date
- SafeTrust wallet for multiple credentials
SafeTrust provides BLE to:
  - WaveLynx readers
    • LEAF
  - RF Ideas readers
  - ISONAS readers
  - MIFARE, DESFire EV1

Logical access dongle for Windows, Mac, Linux
There seems to be some confusion
  - NFC is a broad standard
    - Two standards, one for passive cards (tags) and one for powered devices
    - Readers can read NFC from phones and some or all of these:
      - MIFARE
      - MIFARE DESFire EV1 and EV2
      - HID Seos
      - iCLASS SE
      - iCLASS
      - Prox
      - BLE
WHY BLUETOOTH LOW ENERGY?

- BLE
- Supported by all mobile platforms
- Range – inches to 30 ft.
- Does it burn more battery?
- No fees to Mobile Network Operators
- BLE is open, but data can be encrypted
• Lenel BlueDiamond
  – Issue credentials from OnGuard
  – BlueDiamond readers
  – Cards – Prox, MIFARE, DESFire
SALTO LOCKS

- Bluetooth module for SALTO locks
  - Can be added without removing lock
  - Readers can still read cards
Card is visual image on phone
- Moving visual elements
- Remote management
  - Expire, renew, revoke
- Barcode show and scan
- Front and back
- Selfie
- Offline and online
HID VISUAL CREDENTIALS FOR MOBILE

- HID has a large government secure credential manufacturing business
- goID – Mobile visual credentials
Would you consider a mobile-only campus?

- Yes: 19
- No: 17
- Aw, heck no: 6
FLASHBACK - MOBILE SHORTCOMINGS

- Lack of visual identification
- Sense of belonging with ID card
- Legacy Mag and Barcode Systems
DUPLICATE CREDENTIALS

• Mobile
  – Phone
  – Watch

• Card too?
CONSIDERATIONS WITH MOBILE ID

In many cases, mobile credentials and/or readers can be more expensive than a traditional card

Current hardware decisions need to be made with mobile in mind

Work with Partners who are familiar with these technologies and can provide complete solutions
University of Texas student government pines for mobile ID

30 November, 2018  By: Andrew Hudson

News of Apple devices now supporting mobile credentials on the iPhone and Watch has turned quite a few heads. Now, a student government push at the University of Texas at Austin wants to usher in the era of mobile IDs.

As reported by The Daily Texan, the university’s student government has started an initiative to bring mobile IDs to UT after being inspired by an article detailing the Blackboard Mobile Credential at Duke University, the University of Oklahoma and the University of Alabama. A representative for Texas’ student government has even gone so far as to reach out to Apple directly to find out how to incorporate mobile IDs on UT’s campus.

Mobile ID makes me feel...

- Rich
- Excited
- Anxious
- Confused
- Old
- Like my job loves me
- Dated
- Headache
- More innovative
- What was the question?
- Warm and fuzzy
- Drop it like its hot
- Excellent
- Ornery
- Happy
- Hopeful
- Like a millennial
- Challenged
- Mobile
- Not valuable to students
- Technologically up-to-date
- Like I need a new phone
- Techie
WHAT DO WE KNOW?

- Strong interest in convenience over security
- Cost is an obstacle
- There are many options
- Hardware replacement and integration can be big projects
- A campus could leapfrog to mobile from mag stripe or prox
- Mobile apps can provide access to multiple systems in ways cards can’t
How soon do you think your campus will adopt mobile?

- **Next year**: 1.9
- **1-3 years**: 2.7
- **5-10 years**: 3
- **Never!**: 1.2

Total responses: 38
THANK YOU