Duke’s Road to Mobile Credentials

Is it cool or scary?
About Duke University

- Located in Durham, NC – Founded in 1924
- 14,500 students
  - 6,500 Undergraduates
  - 8,000 Graduate/Professional
- 35,000 employees
- Duke University Health System
  - North and South Hospitals
  - Duke Raleigh
  - Durham Regional
- Campuses:
  - Durham (East, West, Central)
  - Beaufort (Marine Lab)
- DKU China campus partnership

- **6,532** Undergraduate Students
- **8,660** Graduate & Professional Students
- **15,192** Total Students
- **$53,760** Undergraduate Tuition
- **$70,873** Total (including tuition, room and board, fees (not including books, personal expenses))
- **50%** Percentage of Undergraduates Receiving Aid
Timeline

• 2013 – RFP Process
• 2014 – Selection of Access Control and Financial (per RFP)
• 2015 – First call with Apple to discuss NFC capabilities
• 2016 – Selection of Door Locks (Allegion vs Assa Abloy)
• 2016 – East Campus NFC Contactless pilot
• 2017 – Two additional Residence Halls go live on East Campus
• 2018 – Completed “ALL” campus hardware updates
Contactless Technology

• NFC MiFare DesFire ev1
• Support across all Duke systems which relied on DukeCard ID
• Switch to ISO standard card number
• Subset the ISO depending on the “median”
The Beta Site – East Campus

• First year students only

• Upgrade to Contactless readers for:
  • Door Access
  • Dining POS
  • Stores POS
  • Vending, Laundry, Phil
  • Printing
  • Library

• Selected one Residence Hall to get Assa Abloy WiFi locks
Assa Abloy - Rolling out WI-FI Locks

• Housing interested in WI-FI locks
• Technical review and testing (with Assa Abloy and Allegion)
• Pilot program with renovated Residence Hall
• IT/DukeCard had input, but this was a housing decision
• Success and continue to roll out locks
Assa Abloy - High Level Timeline

• East Campus upgrade
  • Summer through Fall 2016
  • Giles pilot – Fall 2016 first year residents

• Pegram Residence Hall – Fall 2017
• Trinity Residence Hall – Winter 2018

• West Campus residence hall upgrades
  • Crowell Quad - Fall 2018

• What’s next
  • The Hollows Residence Hall, Southgate, and Craven Quad
  • Central Campus common areas
  • New Engineering Academic Building
Freshman Communications

Class of 2020

CONGRATS

Yours is the first class to receive a "Contactless" DukeCard.

Just tap your card on East Campus for:

• Exterior doors
• Vending
• Dining
• Laundry

DUKECARD  dukecard.duke.edu

OIT  oit.duke.edu/help
Here comes the Mobile Credential

• Duke students are more than 80% Apple users
• Transact/Apple/Assa Abloy/Duke kicked off the project (under NDA).
• Use the “Wallet” for all Access and Financial transactions
  • To store the credential
  • Easy tap feature even if iPhone screen is inactive (but powered on)
  • Shibboleth with DUO for Mobile credential to drop to the Wallet
  • A secure transaction
DukeCard in Apple Wallet: Administrative Considerations

- Project funding and return on investment
  - “Analysis Paralysis”
- Completing infrastructure improvements
- Understanding where the mobile device can and can’t be used
- Engaging University HR and Communications staff
- Working with departmental stakeholders (Student Affairs, DUPD, Athletics, Library, etc.)
DukeCard in Apple Wallet: Administrative Considerations

- Payment Gateway specifications
- Updating Terms and Conditions
- Creating training plans and materials for customers and vendors/cashiers
- Planning and executing marketing campaign
- Designing visual elements:
  - Wallet pass
  - eAccounts elements
  - Website additions
DukeCard in Apple Wallet: IT Considerations

- Application upgrades
- Import/scripting updates
- 3rd party application integrations and impacts on other campus systems
- Monitoring scripts
- Reader Mapping
- Reporting
- Where does eAccounts fit into the product strategy?
  - Integration with Duke’s online security standards (Shibboleth, SAML2, Multifactor)
Testing
(don’t mind the Cuervo box)

- Apple, Assa Abloy and Transact were onsite for many days
- Early adopters of a group of 50 or so testers
- Seed testing
  - a group of 450-500
  - Flex/Dining/Access
  - Beta iOS code
  - Special App Version
Apple discloses – no more NDA

• Announced at Apple’s World Wide Developer Conference June 2018

  “With watchOS 5, Apple Watch replaces Student ID cards. With a raise of the wrist, students can gain access to places including the library, dorms and events, and pay for snacks, laundry and dinners around campus simply by adding their ID cards to Wallet on Apple Watch. The program launches with Duke, the University of Alabama and the University of Oklahoma this fall. Johns Hopkins University, Santa Clara University and Temple University will bring the capability by the end of the year”
It’s Go Time !!!
Duke Community

- I think it will make Duke students’ lives so much more convenient.
- It definitely makes getting around our building (Duke Wellness Center) easier!
- I always need to have my DukeCard on me, whether it’s to buy food, enter buildings, or do a variety of other things on campus. While I used to occasionally forget my physical card in my dorm, I no longer have to worry about carrying it at all since I just use my DukeCard on my iPhone and Apple Watch, which are always with me.

Hey @DukeStudents @DukeChronicle @Duke_SA Do you like the new DukeCard on your iPhone or watch? Send us a note to tell us how you like it!

83% Love it
0% Can’t live without it
17% Nah
Apple launches new feature Tuesday that puts your DukeCard on your iPhone

By Jei Bricker | 10/02/2018

Community Outreach
## Current Mobile Statistics

### Totals by Primary Role

<table>
<thead>
<tr>
<th>Role</th>
<th>Mobile Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee</td>
<td>1537</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td>Student</td>
<td>6288</td>
</tr>
<tr>
<td>Grand Total</td>
<td>7827</td>
</tr>
</tbody>
</table>

### Totals By Class

<table>
<thead>
<tr>
<th>Class</th>
<th>Mobile Counts</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate</td>
<td>1381</td>
<td>16%</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>4911</td>
<td>73%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>6292</td>
<td></td>
</tr>
</tbody>
</table>

### Total by Student Class

<table>
<thead>
<tr>
<th>Class</th>
<th>Mobile Counts</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>1435</td>
<td>86%</td>
</tr>
<tr>
<td>Junior</td>
<td>1148</td>
<td>69%</td>
</tr>
<tr>
<td>Senior</td>
<td>991</td>
<td>59%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>1329</td>
<td>80%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>4903</td>
<td></td>
</tr>
</tbody>
</table>

*Based on 1670 undergrads by class enrolled*
Challenges

• Application Functionality Gaps
  • Transact developed vs Duke developed (Tools for Wallet Capture)
• Multiple active credentials to a single Identity.
  • “Today” we support a DukeCard ID, Mobile Phone, iWatch, wristband
  • We need best practices.
  • We need tight policies.
  • We need secure practices.
  • We need to educate about risks.
  • We need to be proactive and respond to lost card/suspend card.
• What credentials/devices belong in Access vs Finance
What About Android Users

Transact DOES have support for Android
High Level Checklist at a Glance ...

- Executive sponsorship
- Departmental “Buy-in”
- ISO standard established
- NFC selected
- NFC enabled devices/hardware/systems
- Card production and encoding methods updated and tested
- Technology tested (including interfaces, API’s, scripts, reports, websites)
- Departmental outreach to find what you don’t know
- Changes to Policy documents
- Updated knowledgebase and training materials
- Communication and marketing materials
- Keep a list of important people and their phone numbers