

Space, the Final Frontier



Onguard as a Catalyst for Process Improvement

Jon Finke - July 2023

Obligatory Site Information

info.rpi.edu for more...

- Founded in 1824, Rensselaer Polytechnic Institute is America's first technological research university.
 - 5,823 resident undergraduate students
 - 1,164 resident graduate students
 - 471 faculty
 - 1462 staff
- Main Campus
 - 49 Academic Building
 - 41 Service Buildings
 - 15 Administrative Buildings
 - 72 Student Residence Buildings

OnGuard Deployment

Numbers you can't find on the web

- Timeline
 - Online in 2002
 - IdM Feed via direct Oracle Table access (interface tables with triggers)
 - People and some access level assignments (Dorms, “Community”, etc)
 - Latency issues due to load methods
 - Start Migration to OpenAccess API May 2020
 - Migrate database from Oracle to SQL Server, summer 2022
- OnGuard Stats
 - Panels - 153
 - Readers 1,053
 - Access Levels - 1,800
 - Badges - 22,948 (includes parking transponders)
 - CardHolders 41,338
 - Access Level Assignments - 103,121
 - Just one segment

ARTS

Attendance Recording And Tracking

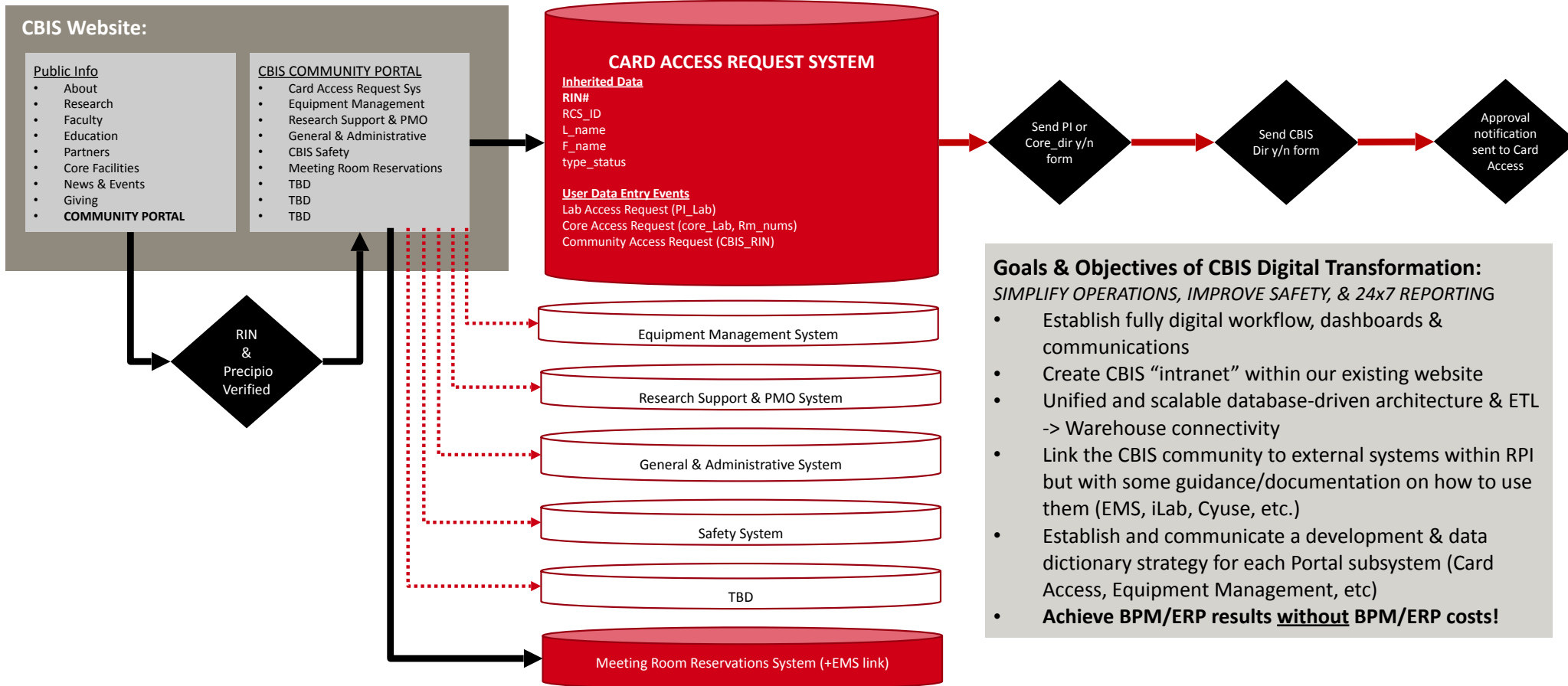
- Web based
- Per department - around 25 at present
- Entry
 - RFIDeas Prox Reader (around 100 currently deployed)
 - Manual Entry
 - QR code
 - Mag Stripe Readers
- Access Control List
 - Group membership (or not)
 - Demographics
- Logging and Reporting

COVID Response

Campus Access Requirements (2021-2022)

- High Frequency (ARTS Tool Only)
 - Symptom Reporting
- Medium Frequency (**Daily OnGuard Feed**)
 - Current on Testing (on Campus Sample Lab)
- Low Frequency
 - **Completed Return To Campus Training (SkillSoft)**
 - Proper Class Designation (not in “away” semester)
 - Current Contact Information (contact tracing)

OVERVIEW OF CBIS DIGITAL TRANSFORMATION PROJECT



Center for Biotechnology and Interdisciplinary Studies (CBIS)

Card Access Request System

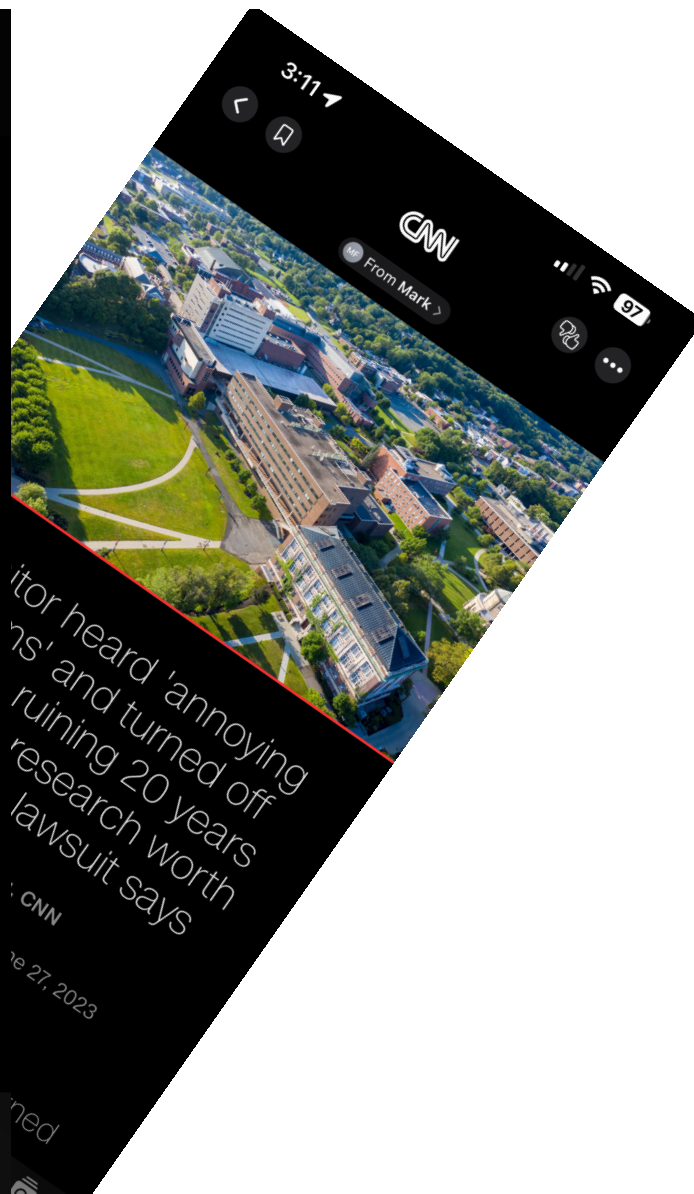
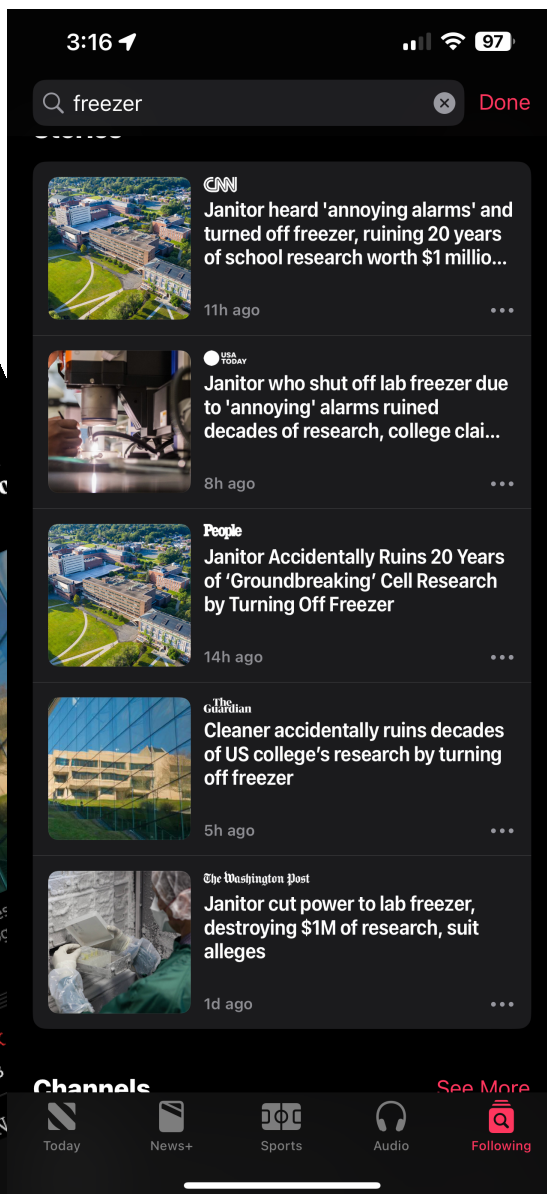
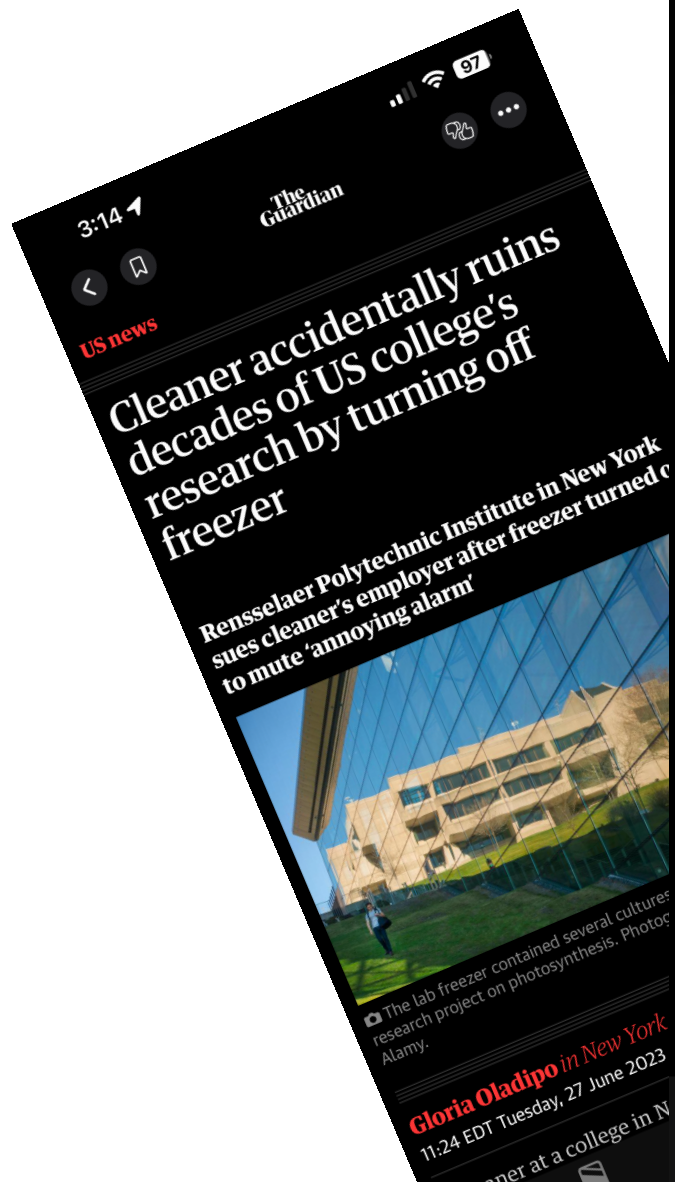
- Training Required to request access (from Skillsoft/Percipio)
- Approval by Primary Investigator for “their space”
- Approval by Building Coordinator
- Building app to explore access levels, readers and assignment
 - Access levels with 50+ readers
 - Readers (Rooms) with 50+ levels assigned
 - Close to 2000 Badges!

Sample Access Level

| Reader Name | Panel Id | Reader Id | Timezone | Last Changed |
|----------------------------------|----------|-----------|------------------|--------------|
| BT Corridor 2349 | 66 | 2 | 24 Hours Biotech | 13-Jul-22 |
| BT Stairway 2-ST-3 | 66 | 3 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 2309 | 66 | 7 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 2220 | 66 | 11 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 2200-A | 66 | 13 | 24 Hours Biotech | 13-Jul-22 |
| BT Atrium South Entrance 2000-A | 66 | 14 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 2300A Near Terrace | 66 | 15 | 24 Hours Biotech | 13-Jul-22 |
| BT Rm. 2319 - Lab Research | 66 | 18 | 24 Hours Biotech | 13-Jul-22 |
| BT Rm. 2327 - Una Acad Lab Res | 66 | 22 | 24 Hours Biotech | 13-Jul-22 |
| BT Rm. 2341 - Lab Res. Vestibule | 66 | 24 | 24 Hours Biotech | 13-Jul-22 |
| BT Rm. 2348 East - Lab Research | 66 | 25 | 24 Hours Biotech | 13-Jul-22 |
| BT Rm. 2348 West - Lab Research | 66 | 26 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 2300A Near Atrium | 66 | 28 | 24 Hours Biotech | 13-Jul-22 |
| BT 2nd Fl. Ox Corridor | 66 | 29 | 24 Hours Biotech | 13-Jul-22 |
| BT Loading Dock 2430-A Into Corr | 67 | 3 | 24 Hours Biotech | 13-Jul-22 |
| BT Loading Dock 2430-B Ext Door | 67 | 4 | 24 Hours Biotech | 13-Jul-22 |
| BT Stairway 2-ST-2 | 67 | 5 | 24 Hours Biotech | 13-Jul-22 |
| BT Stairway 2-ST-2A - Exterior | 67 | 6 | 24 Hours Biotech | 13-Jul-22 |
| BT Stairway 2-ST-1 | 67 | 7 | 24 Hours Biotech | 13-Jul-22 |
| BT 15th Street Entrance | 67 | 8 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 2443 | 67 | 9 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 2200-B | 67 | 10 | 24 Hours Biotech | 13-Jul-22 |
| BT Atrium North Entrance 2000-D | 67 | 11 | 24 Hours Biotech | 13-Jul-22 |
| BT Rm. 2434-A - Central Storage | 67 | 13 | 24 Hours Biotech | 13-Jul-22 |
| BT Rm. 2434-B - Central Storage | 67 | 14 | 24 Hours Biotech | 13-Jul-22 |
| BT ATRIUM 1ST FLR ENTRANCE 1100 | 68 | 2 | 24 Hours Biotech | 13-Jul-22 |
| BT Stairway 1-ST-8 | 68 | 3 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 1300 West | 68 | 7 | 24 Hours Biotech | 13-Jul-22 |
| BT Stairway 1-ST-3A | 68 | 15 | 24 Hours Biotech | 13-Jul-22 |
| BT Stairway 1-ST-3B near Terrace | 68 | 16 | 24 Hours Biotech | 13-Jul-22 |
| BT Rm. 1019 - Microbiology Core | 69 | 3 | 24 Hours Biotech | 13-Jul-22 |
| BT Elevator - Freight - Normal | 69 | 5 | Not Used | 13-Jul-22 |
| BT Rm. 1025 - Microbiology Core | 69 | 8 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 1406 | 69 | 11 | 24 Hours Biotech | 13-Jul-22 |
| BT Corridor 1300 East | 69 | 12 | 24 Hours Biotech | 13-Jul-22 |
| BT Stairway 4-ST-1 | 74 | 2 | 24 Hours Biotech | 13-Jul-22 |
| BT Stairway 4-ST-2 | 74 | 3 | 24 Hours Biotech | 13-Jul-22 |

Sample Reader Report

| | Access Level Id | Access Level Name | Badges | Timezone |
|--|-----------------|---|--------|--------------------------|
| | 176 | Phys Plant - All Bldgs (exc RCF CCNI Troy) 24/7 | 229 | 24 Hour |
| | 222 | Biotech Contractors | 225 | 4:30 am to 7 pm all week |
| | 989 | Public Safety Personnel - no 2005 | 151 | 24 Hour |
| | 107 | Public Safety Personnel | 135 | 24 Hour |
| | 226 | Biotech Core Director/Researcher/Bioart | 90 | 24 Hours Biotech |
| | 1879 | E&SS - Academic and Residential 5-5 all week | 71 | 5 am to 5 pm all week |
| | 223 | E&SS - Biotech 24/hrs | 69 | 24 Hours Biotech |
| | 478 | Biotech - Administrative Staff | 57 | 24 Hour |
| | 317 | Biotech - Dordick - Staff | 55 | 24 Hours Biotech |
| | 218 | Biotech All except Special Labs | 47 | 24 Hours Biotech |
| | 1064 | Biotech - Hurley - Staff | 46 | 24 Hours Biotech |
| | 1075 | Biotech - Royer - Staff | 46 | 24 Hours Biotech |
| | 332 | Biotech - Wang, C - Staff | 42 | 24 Hours Biotech |
| | 310 | Biotech - Barquera - Staff | 39 | 24 Hours Biotech |
| | 410 | ITI - Biotech | 35 | 24 Hour |
| | 315 | Biotech - Cramer - Staff | 35 | 24 Hours Biotech |
| | 63 | Ambulance | 34 | 24 Hour |
| | 676 | Phys Plant - All Bldgs 6 to 6 weekdays Exc Trb,CCNI,RCF | 34 | 6 am to 7 pm Weekdays |
| | 1524 | Public Safety (No BRC/Res/Troy) - VIPs / Others | 34 | 24 Hour |
| | 647 | Biotech - Morgan - Shared Core Facility Lab - 2319 | 30 | 24 Hours Biotech |
| | 314 | Biotech - Colon - Staff | 30 | 24 Hours Biotech |
| | 328 | Public Safety (No BRC or 2005) - VIPs / Other Personnel | 29 | 24 Hour |
| | 1190 | Biotech - Relyea - Staff | 29 | 24 Hours Biotech |
| | 48 | E&SS - All 5a to 6p except (RCF, Library, Troy) | 28 | 5 am to 6 pm all week |
| | 1704 | Biotech - Blaber - Staff | 26 | 24 Hours Biotech |
| | 259 | Biotech Level 2 | 25 | 24 Hours Biotech |
| | 1738 | Biotech - Montelione - Staff | 22 | 24 Hours Biotech |
| | 1412 | MultiMedia - All Bldgs exc CCNI Troy EMPAC VIC SVC | 20 | 24 Hour |
| | 621 | Biotech All except BRC | 20 | 24 Hour |
| | 832 | Biotech - Wan - Staff | 19 | 24 Hours Biotech |
| | 253 | Biotech Moving Services 8 am-4:30 pm | 19 | 8a-6p weekend only |
| | 350 | Biotech - McCallum - NMR Technical Management | 19 | 24 Hours Biotech |



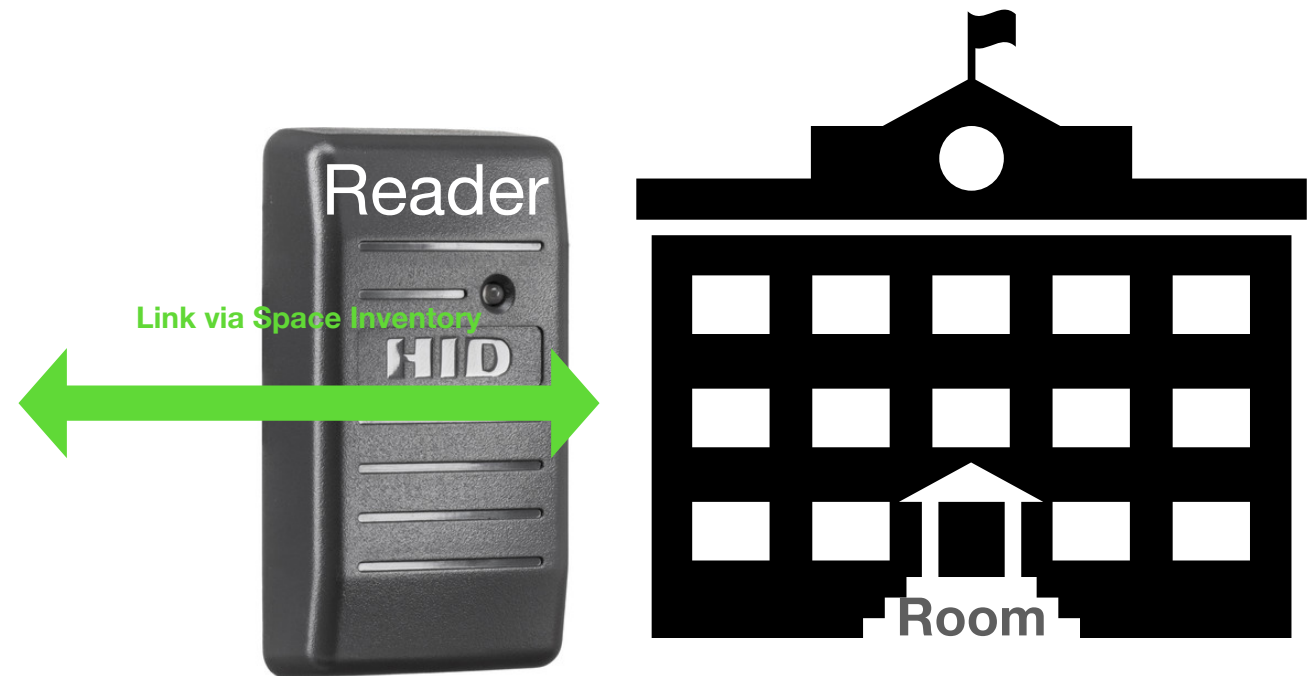
OnGuard Admin Tool

Enhancements - Under Development

- Panel, Reader, Access Level reports
 - Cross linked, include badge counts/reports
- Create Integrated ARTS Event
 - Access Level xxx Actual Groups
 - Reader Events mapped to “event”
 - Request Access (Group) workflow

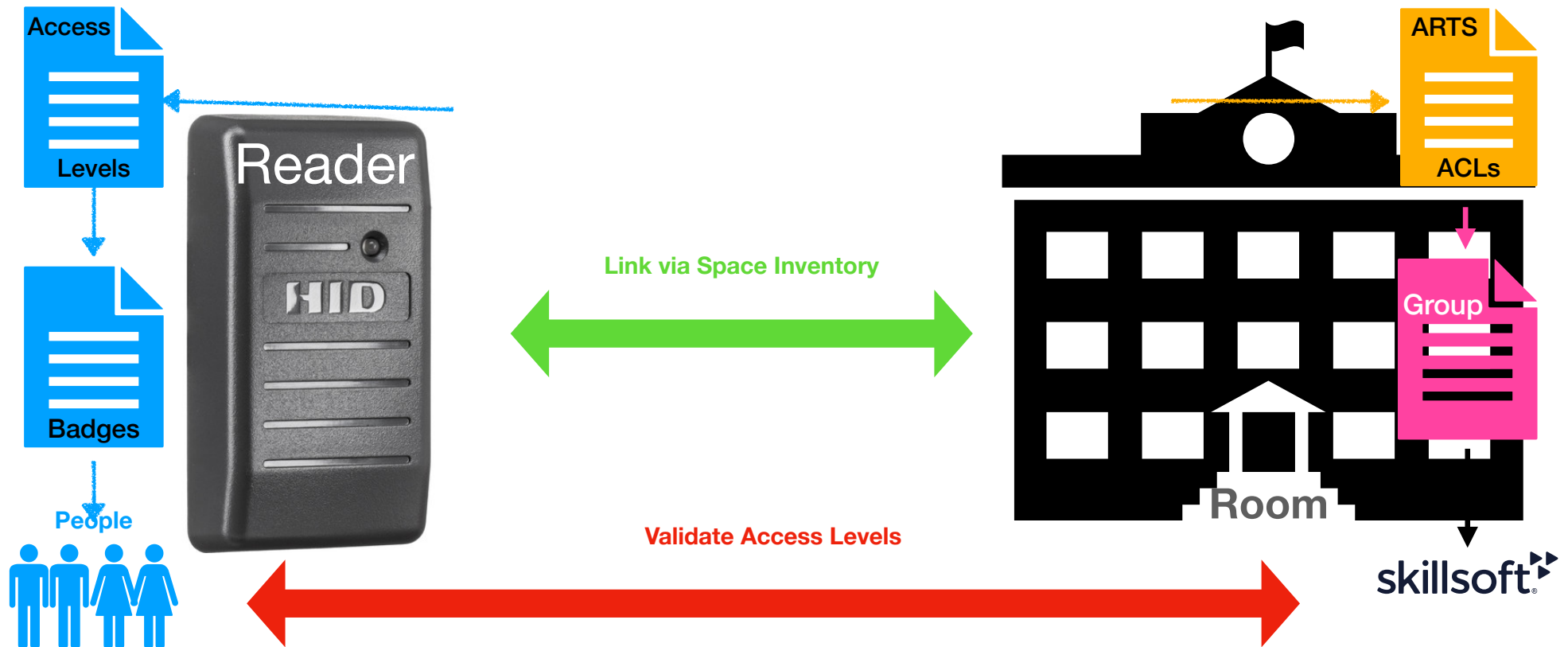
Time for a Data Model

Lets assemble some building blocks.



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Systems (Tables) involved

- Insite (Space Management, Room Type, Primary Occupant)
- OnGuard (Access Readers, Access Panels, Level/Reader Assignments, Level/Badge assignments)
- Skillsoft/Percepio (Training)
- Hostmaster (System Type, Location, Network - Panels)
- ARTS (Access Control Lists)
- Groups

Policy

Access Levels

- Validation of Access levels
 - Before granting - part of the request process
 - Static Analysis - validate the existing systems
 - Triggered by event logs
- Access Level Type
 - Assigned Location
 - Role Based
 - Emergency Role Base



Lenel Ask

Access Level

- Level Type
 - Named Access
 - Role Access
 - Exception Access
- Reports on Role and Exception Access
- Highlights, color for displays (admin, reports)
- Comments
- Alerts/Alarms when Exception access occurs
- Requirement check may be too complex for OnGuard

Lenel Ask 2

Access Level Assignment

- Assignment Type
 - Manual vs API feed
- External Key (to facilitate API updates)
- Comments - (allow API to give hints to system operators)

Lenel Ask 3

Readers

- Room
- Building (Site, Region)
- Location ID (requires Location and Building Validation table)
 - External Location ID (de-normalized or applied at export/API)
- Direction (Entry, Exit, Other)
- Access Classification Code
 - Used for reporting, alert triggers

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Panels

- Building (useful in mapping Reader List of Values)
- Room (our facilities folks want to know where the panels are)
- Location ID - same as for readers
- External Key

Short Term Projects

Infrastructure

- Map Readers to Rooms (and buildings) (new db table)
- Map access requirements (ARTS ACL) to “sensitive” rooms (new db table)
- Identify and assign Building Coordinators (for tool access control)
- Start Static Analysis of access levels

Short Term Projects cont

New Tools

- Access Request Tool - in beta test
 - Precheck access requirements
 - Multi Stage approval workflow
- HASP - Hazard Assessment and Signage Program - Identifying Requirements
 - Identify PI and secondary contacts for each room
 - Identify hazards in room - standard format for door sign
 - HASP Data available in Public Safety Mobile tool
 - QR code on door sign for expanded information
- ARTS - training checks (adding more labs, equipment specific)

| | Name | Day Phone | Night Phone |
|--------------------------|---------------------|--------------|--------------|
| PI-Supervisor | Chao Yang | 518-276-4079 | 603-322-8730 |
| First Alternate Contact | Katharine Dovidenko | 518-276-8665 | |
| Second Alternate Contact | Yechuan Chen | 518-276-8034 | |

Access Is Limited To:

VISITORS MUST BE UNDER ESCORT
Faculty Staff and Student



Low Com-
pressed Gases
hazard



Low Electrical
hazard



Low Ionizing
Radiation
hazard



Low Laser
hazard

Eye Protection & gloves required when handling hazardous chemicals
Eye protection required when using laser
Laboratory personnel have safety training
EATING AND DRINKING ARE PROHIBITED IN THIS ROOM

Information for Emergency Responder:

In case of emergency, call Public Safety at 276-6611
To update this sign, please fill out form at [HASP Assessment Form.pdf](#) | Powered by Box
and send to EHS-RM@rpi.edu Environmental Health and Safety



LABORATORY SAFETY TRAINING
is **REQUIRED BEFORE**
WORKING IN THIS FACILITY.

CONTACT the LAB MANAGER

FOR INSTRUCTIONS

- No Smoking
- No Food
- No Beverages

Longer Term Projects

Expand Space Database

- HASP Integration
- Room “owner”, occupants, department affiliation
- Fixture inventory
 - Fume Hood
 - Special HVAC/Power/Networking
 - Special plumbing - Sinks, Drains, Gas, Compressed Air, etc
- Chemical Inventory (link to purchasing)
- Equipment Inventory
- Hazard Inventory

Longer Term Projects (cont)

- HASP expanding in Laboratory Safety
 - Key database for static access analysis
 - Automatic log analysis, alerts, reports on access
 - Additional room type - mechanical rooms, access corridors, etc)
- Apply Training requirements to application roles
- Contract Card Checkout/Management tool
- Disabled Occupants - Knox box, PSO Tool

Questions, Comments

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- Oracle Sites (Well, a DB and Developer)
 - Use APEX (included for free with Oracle)
 - Open Access API tools, functions
- Demo Links
 - [OnGuard Admin V2](#)
 - [Unified Task Approval](#)
 - [Demographic Map](#)