Interoperability Transformation Initiative

UW-Madison IT Professionals Conference
June 6, 2019
Today’s Agenda

• The charge
• Today’s environment
• The Discovery Sprint
• Planning and preparation
• How we’re moving forward
• How you can get involved
What is “Interoperability”?

Program • Definition • Problem space • Set of disciplines
The ability for information systems to work together across technical and business domains, to employ common principles, and to expose standardized interfaces to enable delivery of IT services across the enterprise.
Interoperability Today
The Problem(s)

- Fragile integrations
- Costly and inflexible integrations
- Excess blast radius
- Inconsistent data / use of data
- Integration as “tribal knowledge”
- Inconsistent / unpredictable behavior

In short, a “big ball of mud”.

*A software system that lacks a perceivable architecture

--- Foote, Yoder 1997
Areas of focus

Data Interoperability
How do we express and consume data in an institutionally manageable way?

Integration Services
How do we provide effective and sustainable services to accomplish integration?

Identity and Access Management
How do we ensure timely and correct access to services?
Discovery Sprint
200 user stories

- User needs ≠ delivered solutions
- Labor-intensive, inaccurate, and insecure ways of managing users
- Identity and access management are challenging
- Difficult to access and integrate with data (source of truth)
- Siloed, uneven points of engagement and support
Google Ventures and beyond

**November**: Inception, ideation, proposal

**December**: Pre-planning, line up vendors, campus activities, etc.

**January**: Discovery: high-level architecture, research, validation

**February**: Develop recommendations and final report
# The discovery team

<table>
<thead>
<tr>
<th>Tamra Dagnon</th>
<th>Nuwan Kumarasiri</th>
<th>Tom Jordan</th>
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<tbody>
<tr>
<td>Patrick Hare</td>
<td>Andy Goldstein</td>
<td>Phyllis Treige</td>
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<td>Dave Sibley</td>
<td>Steve Devoti</td>
<td>Jon Terrones</td>
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<td>Jordan Downs</td>
<td>Maria Dahman</td>
<td>Abrianna Barca</td>
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<td>Bethany Gordy</td>
<td>Brian Hill</td>
<td>Jared Kosanovic</td>
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<td>Jon Miner</td>
<td>Kedar Joyner</td>
<td>Megan Holman</td>
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<td>Susan Dyke</td>
<td>Mary Evansen</td>
<td>Joe Tarter</td>
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<tr>
<td>Laura Grady</td>
<td>Chris Spencer</td>
<td>Charlie Calderon</td>
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Preliminary Recommendations
Setting the stage
Behind the Scenes

- Service standard
- Governance
- Service model
- Change management
Backstage

• **Business Domains and Enterprise Business Objects**
  ○ A discipline, not just a technology
  ○ Defining and articulating business entities and actions
  ○ Providing clear interfaces that mask complexity
A word about “bounded context”

- In a professional garden, you have an overall sense of elegance and fit
  - In a community garden, there’s not that same overall sense of grace
    - But there’s exuberance in freedom to do things locally
    - There are some rules that everyone must follow
      - Limits to pesticides / herbicides
      - No invasive plants
      - Compost separation
      - KEEP INSIDE YOUR BOUNDARY
  - There’s also shared infrastructure:
    - Tillers, hoses
    - Water
    - Compost heaps
    - Coordination with city
    - Plot transfer / ownership
- “Good fences make good neighbors”
Backstage

- **Integration platform**
  - Express and integrate applications via well defined interfaces
  - Developer portal to launch integrations with campus
  - Consistent view of objects and data across different access methods
Backstage

• IAM platform
  ○ Manage access based on business role and attribute
  ○ Simplify and enhance onboarding
  ○ Allow greater personalization and preference
Frontstage

End users
Individual learners, faculty, and staff

Technical users
Developers, system administrators, etc.

Administrative users
Schools, colleges, departments, advising, business process owners
End Users - Login and Profile

- Self-service
- User curated data
- Easier to reach new populations (affiliates, parents)
- Cleaner data through self-entry
- Easier for departments and advisors to reach interested parties
Developer Portal

UW Developer Tools

Persons
Persons Resource of the University API
More information: https://it.wisc.edu
Contact Info: api@wisc.edu
Base URL: /amapi/persons
Version: v3
Default request content-types: application/json
Default response content-types: application/json
Schemes: http/s

Summary

<table>
<thead>
<tr>
<th>Path</th>
<th>Operation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>/</td>
<td>GET</td>
<td>Persons</td>
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<tr>
<td></td>
<td>POST</td>
<td>Persons</td>
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<tr>
<td></td>
<td>DELETE</td>
<td>Persons</td>
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<tr>
<td>/(wisc_id)</td>
<td>GET</td>
<td>Persons</td>
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<td></td>
<td>PUT</td>
<td>Persons</td>
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<td>DELETE</td>
<td>Addresses</td>
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<td>/(wisc_id)/addresser/(address_type)</td>
<td>GET</td>
<td>Addresses</td>
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Administrative Users

What would you like to do?

- Get people access to systems
- Get access to UW data
- Share data
- Add a new system
- View My Dashboard
After the design sprint..
External Validations

• External validations
  • Vendors
    • Gartner / Unicon / cPrime
  • Peers
    • UCB, BYU, OSU, The other UW

• Campus presentations
  • Data Stewardship
  • IAM Council
  • Cybersecurity
  • BiCOE
  • etc
Program Approach

• Iterative / Agile
• Phased
• Leading / supporting Administrative Transformation project
• Adopting a “Bubble” approach*

# Interop Program Phases

<table>
<thead>
<tr>
<th>Phase 0</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
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<tbody>
<tr>
<td>Refine standards/frameworks</td>
<td>Engage university in refining standards/frameworks</td>
<td>Complete Initial HR and other high-priority EBUs</td>
<td>Enhance existing and continue to create more EBUs</td>
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<tr>
<td>Identify business domains</td>
<td>Develop MVP Person/HR EBUs</td>
<td>Deploy Integration platform/developer portal</td>
<td>Build guided integration experience MVP</td>
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<tr>
<td>Define deployment pipeline/infrastructure strategy</td>
<td>Build MVP Integration platform/developer portal</td>
<td>Build and integrate provisioning environment</td>
<td>Deploy and integrate provisioning environment</td>
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<td></td>
<td>Build POC of provisioning environment</td>
<td>Build improved profile MVP and login MVP processes</td>
<td>Deploy profile and login processes</td>
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<td>Build and deploy self registration process</td>
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### KEY

- **Framework Projects**
- **Program**
- **ERP Replacement**
- **Touchpoints**

- **Recommend AIS portfolio prioritization & changes**
- **Identify team & secure time**
- **Define initial training needs & start executing**
- **Gain approval to move forward; secure funding**
- **Initiate AIS immediate recommendations**
- **Onboard program staff & HR domain integrators**
- **Continue training**
- **Onboard Finance domain Integrators**
- **Purchase/Integrate DevOps tools**
- **Initiate RFPs as determined**
- **Establish Communities of Practice**
- **Sunset old infrastructure/shift operational personnel**
- **Finalize RFPs/Implement**
Stay in touch

Please send questions and feedback to

it-interop@lists.wisc.edu

Follow us via

it.wisc.edu/it-projects/interoperability-initiative/