Enterprise Architecture Journey at uOttawa

Presented by MaryAnn Welke Lesage
Why did you choose to attend this session today?

What are you hoping to get out of this session?
Agenda: The uOttawa EA Journey

- Meet the uOttawa EA Team
- Strategic Alignment
- EA Roadmap
- Guiding Principles
- Architecture Review Board
- EA Reference Architectures & Standards
  - Business Capability Model
  - Technology Reference Model & Standards
- Challenges along the way
The uOttawa EA TEAM

MaryAnn Welke Lesage
Enterprise Architect

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Solution Architect
Teaching & Learning Portfolio

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Senior Director | Information Management

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Senior Business Analyst
(Business Architecture)

Cheshita Gooransing
Co-op student
Digital Strategist
The uOttawa Enterprise Architecture Program supports the delivery of Transformation2030 and the Digital Campus Transformation Plan.
EA Roadmap: Themes

GOVERNANCE
• Integrate security, privacy, accessibility and UX assessments into the architecture governance process
• Leverage new EA Analyst position to streamline the governance process and provide direct support to projects and senior architects

STANDARDS
• Enterprise standards and reference architectures
• Implement standards lifecycle management

CAPABILITY ROADMAPS
• Work with all IT leaders (IT + Faculties/Services) to transform planning process to capability driven roadmaps

UX & PARTNERSHIPS
• Deepen partnerships with key stakeholders such as TLSS, Library, Faculties through communities of practice, POCs, direct support for enterprise projects
• Collaborate with Professors and Students: 1) Hire students on an ongoing basis 2) Engage in projects with professors and students (e.g. Chatbot Community of Practice, UX assessments done as student projects, Future of Higher Ed)
• Develop UX architecture capabilities over the next 3 years, in partnership with ITS
EA Roadmap: Focus Areas by Domain

- **Business**: Business Capability Model, Capability-Driven Planning & Roadmaps
- **Data**: Data Governance, Data Reference Architecture
- **Application & Integration**: Systems Rationalization, Enterprise Standards and Reference Architecture
- **Infrastructure**: Cloud Transformation, Enterprise Standards & Reference Architecture
- **Security & Privacy**: Integration of security and privacy assessments into cohesive architecture review process, Security Roadmap, Enterprise Standards & Reference Architecture
- **UX**: Partner with ITS to develop UX skills and capabilities, develop UX architecture function (this includes accessibility)
Links between Roadmaps

- ITS Roadmap
  - Enterprise Integration Roadmap

- EA Roadmap
  - Strategy & Governance
  - Reference Architecture & Standards

- I&O Roadmap
  - Security Roadmap
  - Cloud Roadmap
Guiding Principles

Simple & reusable
- Keep it simple. Avoid snowflakes. Embrace reuse.

Sustainable
- Shift solutions and culture, simplify and componentize to scale only what you need and when you need it. Avoid idle computing power.

Agile & continuous learning
- Be agile. Embrace the power of the collective; share what you’ve learned.

User Centric Design
- Tailor solutions to users' needs and preferences. Know them, learn from their preferences, provide for their needs.

Secure & Private by Design
- Security is not optional. Build it safe, Make it count!

Managed Data
- Data belongs to people; policies exist to secure data use them.

Cloud as an enabler
- Digital transformation extends beyond technology. Let the cloud be the enabler not the goal.

Diversity & Innovation
- We are a community. Of thinkers, tinkerers, makers and doers. Think Big. Collaborate. Harness the power of diversity and inclusion. Build the foundations for disruption.

Fit for Purpose
- Be precise, avoid waste. Ask ‘Why?’, Build the right thing and build the thing right.

Evolutionary Architecture
- Embrace change. API First. Solutions and make them resilient to time, avoid technical debt.

Strategic Partnerships
- Promote strategic and strong relations with partners and vendors.
Architecture Review Board

- Formal Architecture Review Board (ARB) that governs the implementation of digital initiatives, ensures alignment with strategies and principles, and governs enterprise standards and guidelines.
- Aligned with overall IM/IT Governance Structure.
- Core membership includes Senior Domain Architects, IM, Privacy, CISO, Senior Directors from Solutions and Infrastructure, Deputy CIO, Faculty/Service Representatives. All IT leaders across the university are invited to attend. 40-50 people attending each meeting.
- Monthly meetings, additional meetings called as required.
- ARB Guests from other universities so far: Carleton University, University of Saskatchewan, University of Manitoba, Algonquin College, University of Fraser Valley.
- See terms of reference here: https://it.uottawa.ca/comite-examen-architecture
Architecture Review Board

Help to ensure that all IT initiatives and solutions are aligned with the overall University strategy, Digital Campus Transformation Plan, Enterprise Architecture principles, policies and standards.

**Phases**
- **Intake**
  - Project Approval

**Gate 1**
- Strategic Alignment
  - PPMO and/or UIGC

**Gate 2**
- Solution Approach
  - ARB & AWG

**Solution**
- Technical Architecture
  - AWG

**Events**
- Project Approval
- Strategic Alignment
- Solution Approach

**Gatekeeper**
- PPMO and/or UIGC
- ARB & AWG
- ARB & AWG
- AWG

**Action**
- Submit Initiative for review and approval using the Intake form.
- Start Technical Architecture Document (TAD) after project approval.
- Presentation of the initiative and identification of opportunities for collaboration and reuse.
- Presentation of a high-level design, approach, risks, and alignment with EA principles.
- Completion and approval of the Technical Architecture Document (TAD), then creation and approval of a SID (Systems Integration Document).

https://it.uottawa.ca/comite-examen-architecture
ARB 2020 Highlights

85% Planned Projects went to ARB

50% Completed Both Gate 1 and Gate 2

20% Created cause of Covid_19

PROJECT BY DEPARTMENT

Pie chart featuring project by department

SOLUTIONS FOR WHO?

Bar chart featuring how many projects were designed for different uOttawa demographics.
Types of Solutions—Including the number of projects associated with each solution

1. Enterprise Architecture
   - 1 project
2. Data Driven
   - 3 projects
3. Facilities Management
   - 3 projects
4. Technical Support
   - 2 projects
5. Operations
   - 3 projects
6. Research
   - 2 projects
7. Online Experience
   - 2 projects
8. Process Management
   - 1 project
9. Health and Wellness
   - 4 projects
10. Mobile Experience
    - 1 project
11. Cybersecurity
    - 5 projects
12. Protection Services
    - 1 project
13. Learning Remotely
    - 6 projects
14. Regulatory Compliance
    - 1 project
15. Student Experience
    - 7 projects
16. HR & Finance
    - 2 projects
    - 2 projects
Projects Reviewed by ARB in 2021

85% OF TOTAL PLANNED PROJECTS
Brought to ARB

- Faculty of Engineering
- Faculty of Civil Law
- Department of Family Medicine
- Facilities
- Information Security
- Office of the Secretary General
- Financial Resources
- External Relations
- Office of the Vice President Academic and Provost

- Integrations
- Research
- Procurement
- Student Experience
- Academic Services & Planning
- Collaborative Services
- Network & Data Center Services
- Security
- Service Management

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<tr>
<th>6-7 projects</th>
<th>4-5 projects</th>
<th>2-3 projects</th>
<th>1 project</th>
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The Architecture Working Group (AWG) working away...
An Enterprise Architecture Framework has the following traits:

- A common language
- An architecture description, or taxonomy, that describes the relationship between architecture elements.
- Methods, tools and guidance to do architecture
- Governance and communication

The key principles of the framework are to be lightweight, relevant, predictable, and easy to maintain.
Business Capability Model: Common Language, Shared Vision, Strategic Decision Making

Business Capabilities

- High-level view of **WHAT** an institution does from a business perspective.
- Relatively stable, unique and long term.
- Structured in a hierarchical manner, but organizationally neutral.
- Establishes a common language and contributes to a shared vision across an organization (↑ strategic dialog between IT & Faculties/Services)
- Delivered through a combination of PEOPLE, PROCESS and TECHNOLOGY, the **HOW**

A Business Capability Model is:

- A visual structured vision of an organizations set of business capabilities
- Essential for a successful Enterprise Architecture practice – better **value** and **business outcomes** by ensuring execution is linked to strategic goals and objectives.
Linking Architecture Data

A top-down (business-driven) and bottom-up (technical driven) traceability of uOttawa goals in relation to investment and management of its people, data, and technology.

GOVERNANCE: Increased architecture perspectives
Communicating Investment Guidance

A product and vendor agnostic list of technology domains, technology areas, and technology building blocks that is used to classify current and potential technology investments and uOttawa applications. This is the most abstract view to classify uOttawa technology investments.

An architecture activity used to identify the lifecycle and recommended usage of the technology building blocks that are represented by the list of technology groupings within the Technology Reference Model. Technology Bricks are used to help support the architecture activity of Application Rationalization and can serve as a Technology Roadmap.

A list of vendor, open source, or 3rd party technologies that are associated to a technology brick. The information can be used as the uOttawa Current State Technology Architecture.

The list of technologies belonging to a Technology Brick that have the INVEST lifecycle state and endorsed by ARB and provide Faculties, Services and IT teams investment guidance.

The EA team will maintain the artifacts; however, the lifecycle and usage of a selected technologies must be maintained by the implicated domain architect.

STANDARDS: Publish IT Standards
A Building Block is a vendor and product agnostic architecture element that is commonly combined with other Building Blocks to describe how a business problem or opportunity will be addressed in respect of uOttawa policies, requirements and supported patterns.

All reference and solution architectures can be decomposed into their enabling Building Blocks.

A Building Block may be represented by one or many technology products.

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<th>Technology Area</th>
<th>Building Blocks</th>
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Sample Technology Reference Model

Current: Excel
Target: ITSM Tool (TOPdesk), migration underway

Lifecycle Categories (from Gartner TIME model)
- Tolerate
- Invest
- Migrate
- Eliminate
Maintaining IT Standards

Each ARB will seek endorsement of a set of IT Standards.

A proposed IT Standard must be socialized across IT before being presented at ARB.

Current focus is only on IT Standards; however, the framework can expand in scope.

The EA team will maintain the IT Standards supported by the AWG.

The Path to Becoming an IT Standard - Architecture - Confluence (atlassian.net)

STANDARDS: Publish IT Standards
CHALLENGES

- Change management and communications
- Federated environment, lack of visibility and direct oversight
- Volume of work, projects to support (exceeds capacity)
- Developing architecture knowledge and skills across the organization (just like security, architecture is everyone’s responsibility)
- Business Capability Model and Business Capability Driven Roadmaps
- Many projects accelerated due to COVID and given exemptions from architecture governance (still catching up now)
- Integrating with other core processes (project portfolio management, security assessments, vendor and contract management, budget process)