

Development of Learning Material on the Use of Open Source Software in Government

Presentation to Joint Councils

September 28, 2022

Outline

- Project overview, including methods of collaboration, engagement with outside organizations
- Overview of course materials
- Feedback and discussion
- Next steps

Project Overview

- **Objective:** Develop learning materials that empower public sector executives across Canada to evaluate, procure, manage, and benefit from OSS.
- **Deliverables:**
 - A course consisting of 6 modules
 - Course material will be available in accessible text format as well as hosted on Open North's e-learning platform.
 - All final materials will include the names and logos of ICCS and Open North.
 - Supplemental resources:
 - One-pager summary for each course module
 - Resource lists, checklists for key processes

Process Review

Collaborative platforms

- Identified and assessed platform options for content development, hosting, maintenance, future adaptation.

Course content

- Reviewed research material provided by OSSWG
- Identified key learning concepts
- Engaged experts
 - Foundation for Public Code
 - Open Contracting Partnership
- Organized concepts into series of modules

CoP Engagement

- Developed plan to create productive engagements with CoP members throughout content development and testing phases.

Community of Practice

- Current membership: 7 public servants from digital service teams across Canada.
- Why a CoP?
 - Civil servants have real-world knowledge that is crucial for improving government operations.
 - Civil servants understand the most effective way to format and frame new ideas in a public sector context.
 - Co-creating learning materials with civil servants fosters a sense of ownership over the content.
 - The relationships built during the CoP can become the core of a long-term software stewardship community.

Community of Practice Workshops

Workshop 1 (Aug. 16)

- Present proposed learning modules
- Solicit case studies from CoP members

Workshop 2 (Sept. 12)

- User-testing feedback on LMS format
- Discuss content, references and case studies

Workshop 3 (TBD)

- Validate final content
- Validate final format
- Discuss community development, governance and stewardship

Course Content

Course objectives

By taking this course, public sector executives will:

1. Develop basic knowledge of Open Source Software fundamentals, how it differs from conventional proprietary software, and what value OSS brings in a public sector context.
2. Learn to recognize the common barriers to using OSS in government, and identify strategies for overcoming them.
3. Develop an understanding of how an applied, operational framework for policy and management decisions can enable a well-balanced approach to software – whether Open Source or conventional proprietary.

Module 1: Introduction to Open Source Software

Learning Objectives:

- Review the general use cases for software in government and learn how government software is unique.
- Introduce licensing as the fundamental difference between OSS and conventional proprietary software.
- Explore the differences between OSS and proprietary software.
- Learn the origins and motivations of the Open Source Software movement, as well as the fundamentals of how OSS works today, and what it means to obtain and maintain OSS.
- Highlight the benefits of using OSS in government, identify the unique challenges associated with it, and introduce strategies for overcoming those challenges – strategies that will be elaborated in greater detail throughout the course.

Module 2: The Open Source Team

Learning Objectives:

- Discuss the wide variety of job functions, professional profiles and skillsets involved in implementing and maintaining OSS solutions in a government organization
- Review guidelines for hiring and leading a right-sized technical team
- Introduce strategies for sharing capabilities across different government jurisdictions

Module 3: Licensing, Procurement & Finance

Learning Objectives:

- Understand the differences between Open Source and Proprietary software licensing models.
- Understand the differences between Agile and Waterfall development approaches.
- Understand why government systems bias toward proprietary software and waterfall development.
- Understand the different software revenue models and how they affect government cost structures.
- Learn new approaches to procurement, contracting, licensing and staffing.

Module 4: Security & Privacy

Learning Objectives:

- Discuss key security and privacy considerations associated with OSS
- Address commonly held perceptions (and misconceptions) regarding the risks of OSS compared to commercial proprietary software
- Explore various tools and techniques for assessing and mitigating security and privacy risks within OSS

Module 5: Accessibility & Maintenance

Learning Objectives:

- Discuss key sustainability issues related to OSS
- Outline common challenges that organizations face in maintaining their OSS solutions
- Identify key elements of successful stewardship of OSS solutions

Module 6: Working with OSS Across Jurisdictions

Learning Objectives:

- Review the interjurisdictional issues raised in previous modules
- Discuss key considerations when forming multi-jurisdictional teams around a particular piece of software
- Discuss resource sharing between different levels of government
- Explore what it means to participate in a global community of codebase stewardship

LMS Course Mockup

The mockup displays a course interface. The main header for Module 1 is "Module 1: Introduction to Open Source Software" with a "START MODULE" button. Below this, a paragraph explains the module's purpose: to introduce OSS, its differences from proprietary software, and its value to the public sector. It also outlines the subsequent modules.

The purpose of this module is to introduce what OSS is, how it differs from conventional proprietary software, and what it means for the public sector – specifically, how it can create value. It also contains an outline of the course and a summary of the subsequent modules.

- **Section 1** begins with an introduction of the general use cases for software in government and the ways in which government software is unique.
- **Section 2** introduces Open Source Software and highlights that licensing is the

The right sidebar shows a table of contents for Module 1, with "Section 4: Challenges and Benefits of OSS in Government" selected. The main content area displays "Section 4: Challenges and Benefits of OSS in Government" with the title "The Unique Benefits of Open Source Software in Government". It states there are five factors that make OSS ideal for use in a government context:

1. **Openness and transparency.** Open Source Software is just that – open. It isn't a black box. The global and local community audit the code and hold each other accountable. As a result of openness, OSS is also more interoperable across a variety of digital systems.
2. **Continuous updates and security.** Because the code is open, security auditors and contributors can inspect the code for security risks or flaws. Full software packages and sub-modules are constantly updated. This ensures performance and cybersecurity in changing conditions. Commonly used scripts help the community audit and debug software.
3. **Controlled costs.** OSS is free, and you have direct control over all associated costs – whether you hire in-house staff or contract with external service providers. There are no hidden fees, expensive maintenance, paid features, or contract renegotiations.
4. **Strong local (tech) economy.** Small local software contractors are well-suited to work with OSS and build custom features or integrations for government organizations. In contrast, proprietary software is generally created and commercialized by monolithic software vendors that are often located abroad. By hiring small local firms, government can strengthen the local economy, particularly its tech sector.
5. **Freedom from vendor lock-in.** Proprietary software can be operationally or contractually

[Link to course module preview](#)

Next Steps

- Incorporate feedback from Joint Councils, OSS WG, and CoP
- Iterate current drafts toward final content
- Create content for remaining course modules
- Publish the course
- Develop a plan for ongoing courseware management
- Plan how the CoP will be animated

Discussion

- Initial reflections on the course module content...
 - Is the tone right?
 - Is the level of detail right?
 - Are we missing any key ideas?
 - Can you suggest compelling examples?
- How can we engage senior executives in user testing final materials?
- What is the Joint Council / ICCS's plans for promoting the course?
 - How can we align promotional efforts?
- What is the OSS-WG's plan for animating a community of practice?
 - How can we align software stewardship efforts?