eCampusOntario Infrastructure for Open Publishing of Learning Resources

Dr. Wendy Freeman,
Director, Office of E-Learning,
Ryerson University

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Project Objective

Build a prototype open publishing infrastructure to integrate and extend the BC Open Textbook Library that will be migrated from BCcampus to eCampusOntario in May 2017 with a project completion date of Aug. 31, 2017

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Housekeeping

- Washrooms are by the elevators
- Meeting materials posted library.ryerson.ca/open/events
- Hashtag for the day is #OERUXday
- Wireless network: SSID RU-Secure.
  - Username: oerusability
  - Password: Usability@Ryerson1@!

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Agenda

10:45 a.m. Coffee Break

11:00 a.m. -Demo and Prototype Overview

　　　Dean Irvine - Architectural Overview, Apurva Ashok- Pressbooks Demo

11:45 a.m. Q&A - All

12:00 p.m. - 1:00 p.m. Lunch

1:00 - 2:30 p.m. Breakout sessions -Rotating sessions at 1:00, 1:30, 2:00 p.m.

　　　User Front-End (Agile) - **Room #SLC508**

　　　Pressbooks Authoring Platform - **Room #SLC515**

　　　OER Module Creator (Lars and DES) - **Room #SLC516**

　　　Repository/Metadata - **Room #SLC508**

2:30-2:45 p.m. - Coffee Break

2:45 p.m. - 3:45 p.m. - End of day reporting

　　　Reports from each of the groups

3:45 p.m. Concluding remarks

Project deliverables

Deliverable 1	A working Pressbook prototype with enhanced features
Deliverable 2	Integrate an open source repository
Deliverable 3	Community building and knowledge mobilization
Deliverable 4	Learning module authoring and distribution prototyping

Key Deliverable Workstreams

The four core activity streams are:

- Pressbook prototype with enhanced features
- Integrate an open source repository that will support the open textbook platform and other content
- Community building and knowledge mobilization
- Learning module authoring and distribution prototyping

eCampusOntario Infrastructure Project

Key Deliverable Workstreams

Project leadership and governance structure:

Ann Ludbrook, Copyright Librarian, Ryerson
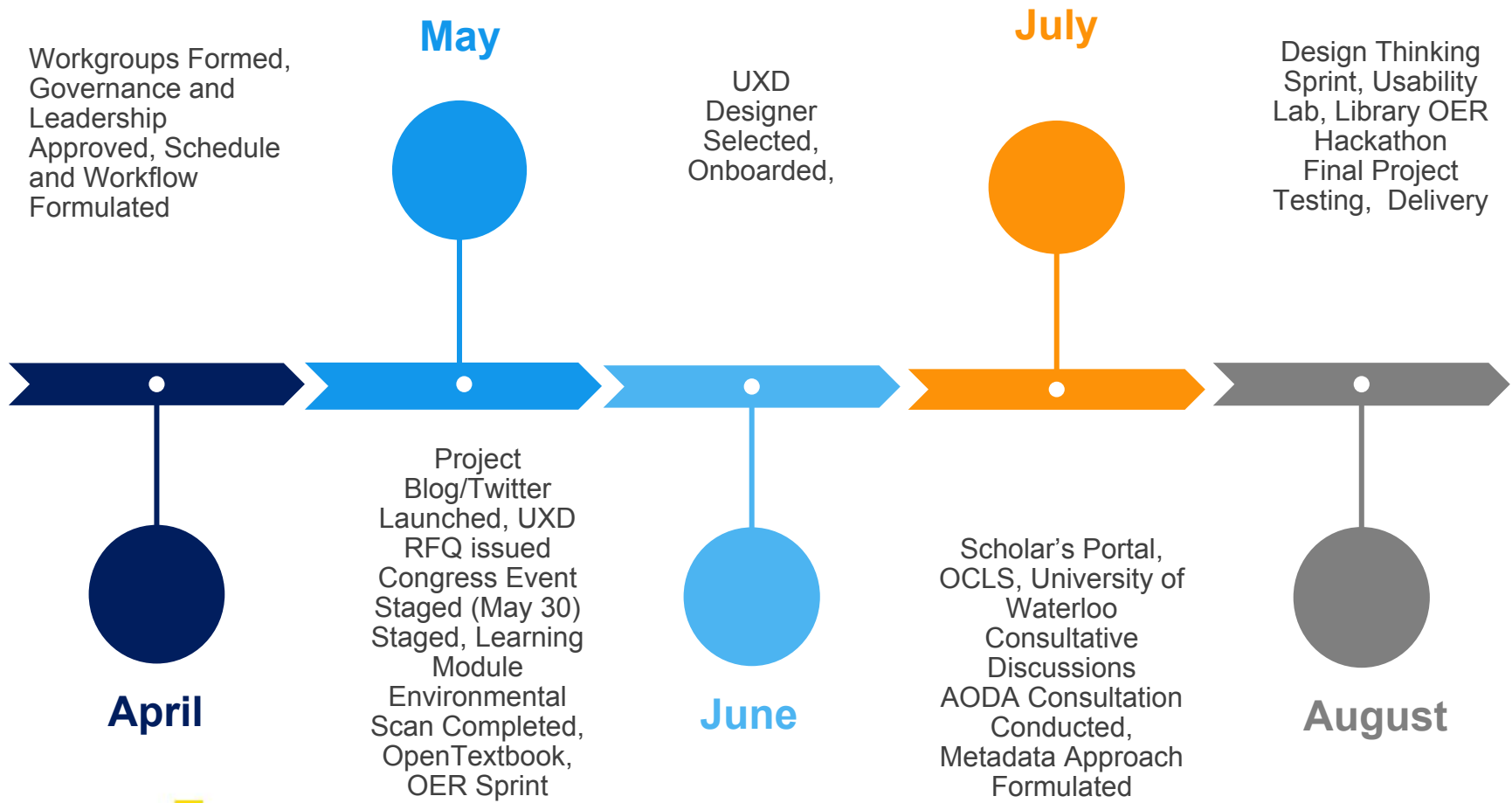**Communications & Community Building Chair**

Hongbo He, Director, Applications Services, CCS, Ryerson
Infrastructure Chair

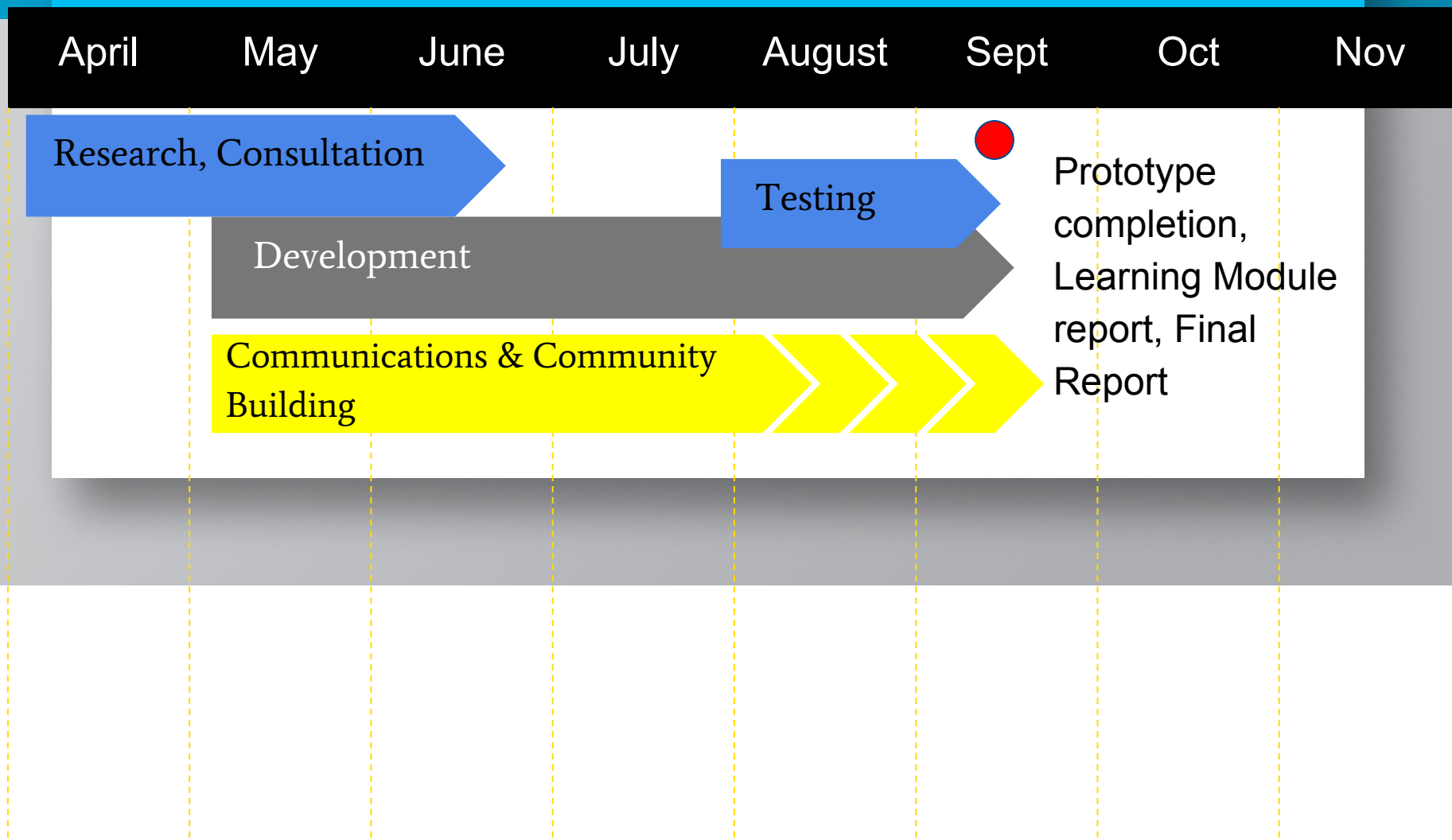**Hugh McGuire, Co-Founder, Rebus**
Pressbooks Chair

Naza Djafarova, Director, Digital Educational Strategies,
Chang School
Learning Module Authoring Chair

Chairs Meeting

Major Milestones

May

July

Workgroups Formed, Governance and Leadership Approved, Schedule and Workflow Formulated

UXD Designer Selected, Onboarded,

Design Thinking Sprint, Usability Lab, Library OER Hackathon Final Project Testing, Delivery

Project Blog/Twitter Launched, UXD RFQ issued Congress Event Staged (May 30) Staged, Learning Module Environmental Scan Completed, OpenTextbook, OER Sprint

Scholar's Portal, OCLS, University of Waterloo Consultative Discussions AODA Consultation Conducted, Metadata Approach Formulated

April

June

August

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Timeline

April	May	June	July	August	Sept	Oct	Nov

Research, Consultation

Testing

Development

Communications & Community Building

Prototype completion, Learning Module report, Final Report

Project in Numbers

Meetings	30+
Meeting Hours	60+
Project Hours	1,375+
Team Members	30+

Our Partners

Infrastructure Workgroup Tasks

Integrate an open source repository that will support the open textbook platform and other content

- Evaluate available open source repository systems and consult with BCcampus and other Canadian institutions regarding their OER repositories
- Install, configure and customize the functions of the selected repository system to meet the requirements of open textbooks and other types of OER content
- Develop a customized/branded design for an eCampusOntario open textbook library
- Investigate and integrate a Single Sign On (SSO) authentication system (e.g. CAS and Shibboleth) for the selected repository system
- Integrate the selected repository system with Pressbooks
- Extend repository to support possible identified requirements that are not supported out of box

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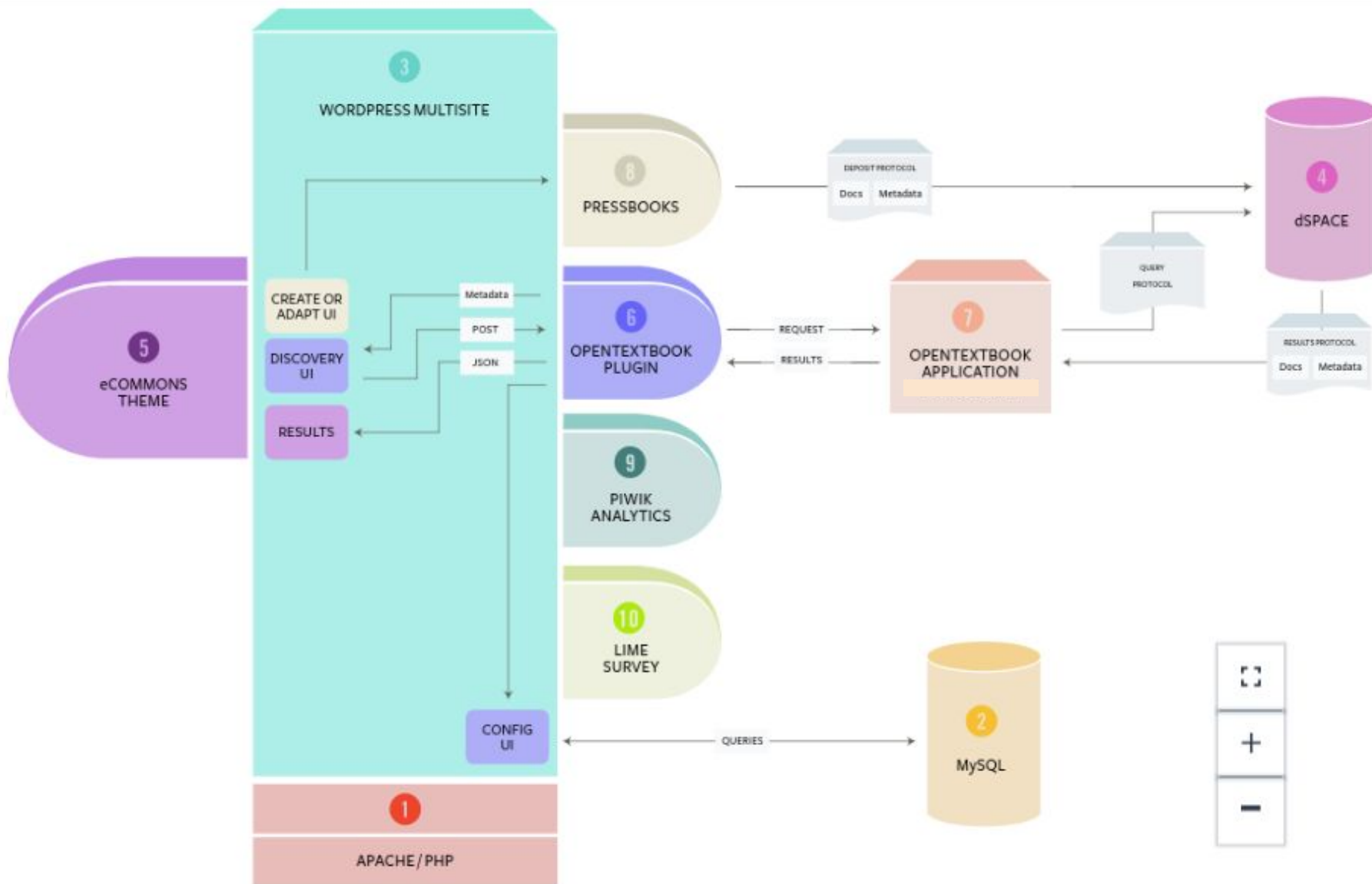
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DSpace

- Open Source (BSD License)
- Used by 1,000 + organizations (education, government and private)
- Open Standards: OAI-PMH, OAI-ORE, SWORD, WebDAV, OpenSearch, OpenURL, RSS, ATOM
- digital content types supported: PDF, Word, JPEG, MPEG, TIFF and many more. Easy to extend.

Recent Updates

- Launch and ongoing testing of a DSpace instance,
- Active work on testing content uploads using sample open textbooks received from the Library
- Collaboration with Library metadata experts to explore standards to inform DSpace schema approach
- Collaboration and code sprint with BCcampus OpenEd team
- Collaboration with Rebus on integrating DSpace with Pressbook
- Collaboration with Agile on integrating DSpace with the OpenTextBook Wordpress plugin

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WORDPRESS MULTISITE

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CREATE OR ADAPT UI

DISCOVERY UI

RESULTS

Metadata

POST

JSON

CONFIG UI

APACHE / PHP

1

5

eCOMMONS THEME

8

PRESSBOOKS

6

OPENTEXTBOOK PLUGIN

9

PIWIK ANALYTICS

10

LIME SURVEY

DEPOSIT PROTOCOL

Docs   Metadata

4

dSPACE

QUERY PROTOCOL

REQUEST

RESULTS

7

OPENTEXTBOOK APPLICATION

RESULTS PROTOCOL

Docs   Metadata

QUERIES

2

MySQL

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A collaboration network.

Agile Humanities Agency

Make it agile, by design.

Agile Networks

Our agency forms "agile networks" among clients and rapidly assembled teams of programmers, designers, consultants, and project managers. These agile configurations change from job to job.

More Info

Collaborative Consultation

We have a successful track record in seeing projects through all stages of development – from preliminary consulting and grant applications to project management and sustainability.

More Info

Open-source Innovation

We specialize in open-source development, design themes and platforms, create custom modules, tools, and plugins, and recirculate our code through our public GitHub repository.

More Info

Learning Modules Workgroup Tasks

Complete an environmental scan of existing open source learning module authoring systems

Consult with learning design and faculty support communities in Ontario (OUCEL and College Technology Support)

Draft specifications for a learning module authoring and repository system to include:

- Exploration of common format for distribution. Module distribution outline and requirements
- Integration and introduction of ID workflow within authoring tool
- Making common learning objects available within the authoring process
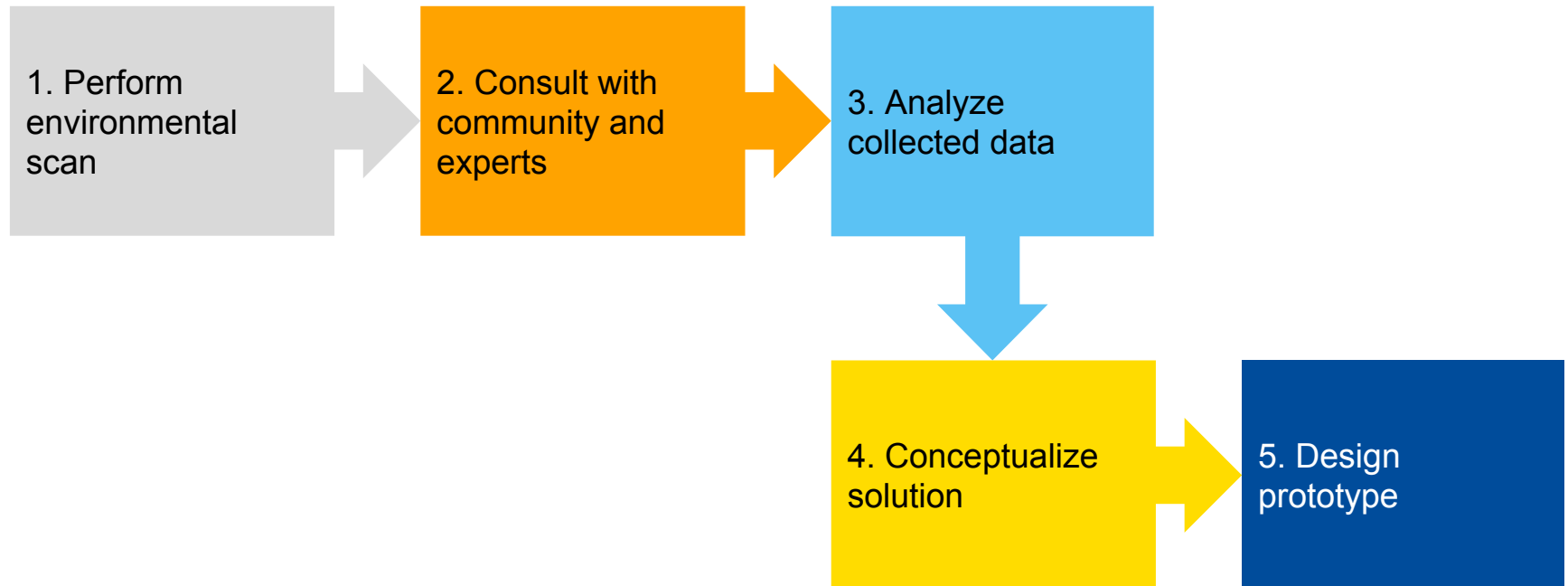- Design and create conceptual prototype

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Recent Updates

- Research into different systems as part of an extensive environmental scan
- Discussions of SMART workflow functionality, which would support an instructional design (ID) workflow
- Survey of multiple methodologies to support course authoring
- Reviews of standards and innovative ways of content digestion and distribution
- Outreach to OER thought leaders
- Consultation with University of Waterloo

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Our Goal

Conceptualize a new generation of software that will fill existing gaps in authoring tools for high quality open educational resources

Our Approach

Environmental Scan

- Methods
  - Review standalone module builders
  - Review integrated content creation tools (CMS, LCMS, OER repositories tools, DAM, etc.)
  - Review automated instructional design systems
- Key Findings
  - Overall gaps of interoperability, personalization, analytics, advising, instructional design and learning assessment, collaboration, and accessibility and universal design.

Consultations with Community and Experts

- Methods
  - Two surveys: 68 novice and 71 expert users
  - One-on-one consultations with leading experts (C. Reigeluth, C. Bonk, S. Mishra, D.Wiley, R. Jhangiani)
- Key Findings
  - Need for onboarding instructions / tutorials
  - Great need for instructional design support
  - Strong desire for easy collaboration / co-authoring tools
  - Quality of OERs is important

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Conceptualize Solution: Main Features

- Onboarding and technical support
    - Intelligent assistance (detect experienced difficulties, provide contextual advice)
    - AI-powered chatbot
- Automated instructional design
    - Instructional design templates
    - Learning objective alignment
    - Intelligent personal advisor (based on machine learning algorithms)
    - Automated ID reviews and feedback
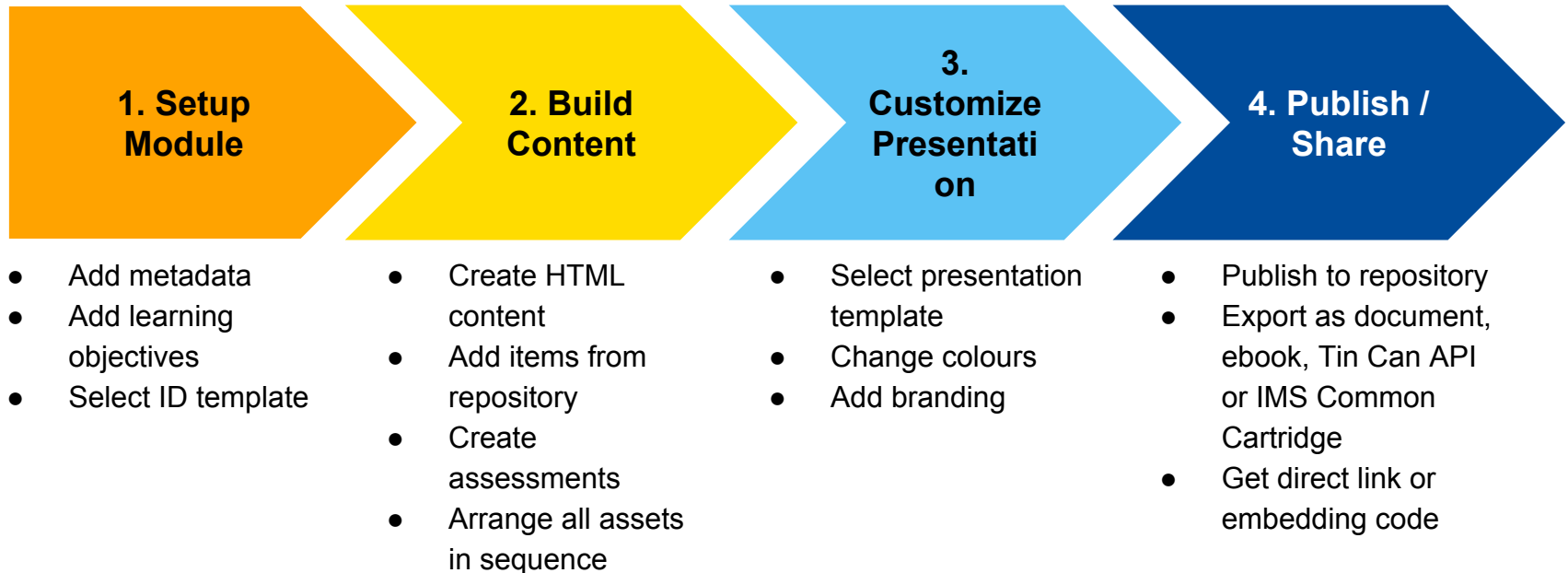- Collaborative workflow (co-authoring, commenting, reviews)

Conceptualize Solution: Main Features (cont'd)

- Interoperability with other systems
  - Search and use OERs from other repositories
  - Integrate created modules into other systems
- Easily adaptable content
- Accessibility and universal design
  - Automated review and suggestions
- Responsive interface and content

Assumptions

- Single login
  - Module Builder is only available to users logged in to OER Repository
  - Module Builder does not require separate credentials
- Managing OERs
  - Save selected OERs to personal collections/folders
  - Upload user's own files (images, documents, media, etc.) to personal collections
  - Modify/remix existing OERs
- Interactive learning objects
  - LOs are separate OER resources, not part of Module Builder
  - Can be created/modified using builtin editors (separate editor for each LO type)
  - LOs are created as personal assets: need to be published to become public OERs

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Module Editor Workflow

1. Setup Module

- Add metadata
- Add learning objectives
- Select ID template

2. Build Content

- Create HTML content
- Add items from repository
- Create assessments
- Arrange all assets in sequence

3. Customize Presentation

- Select presentation template
- Change colours
- Add branding

4. Publish / Share

- Publish to repository
- Export as document, ebook, Tin Can API or IMS Common Cartridge
- Get direct link or embedding code

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Limitations

- Metadata standard for OERs is not defined
  - Crucial for successful adoption of OERs
  - Required for search and integration with other repositories
- Interoperability
  - Adopting OERs from other systems
  - Single search across multiple repositories

Summary

- Environmental scan and consultations demonstrated strong need for technical and instructional design support
- There is a great interest in collaboration, but finding co-authors should be made easier
- Establishing metadata standards for all OER repositories is crucial for for successful adoption of OERs
- Interactive learning activities should be treated as separate objects. Repository should provide separate builders/editors for each type of LO

Communications Workgroup Tasks

Engaging in ongoing promotion, information sharing and leadership activities across Ontario to support Open Education Resources (OER) skill-building and development

- Speaking at post-secondary events dedicated to open learning content development
- OER working teams and experts actively engaged in community- and foundation-building activities across the higher education community.
- Consult with representation from OCUL, OUCEL, OCLS, University of Waterloo, and Queen's University
- Consultation with upcoming OER and Library association meetings to include focus groups
- Establish opportunities to receive iterative feedback from representative community partners through existing grassroots communities.

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Recent Updates

- Establishment of a Project Blog
- Congress 2017 OER Promotional/Community Event on May 30
- Creation of a Poster Presentation
- Launch of a Twitter channel
- OER Librarian listserv
- Consultation session with Scholar's Portal and OCLS
- Creation of an event banner and supporting collateral
- Ongoing news and blog posts

May 30 Congress OER Event

Ryerson University hosted an OER event at Canada's largest gathering of scholars, Congress 2017 hosting 9,000 academics, researchers and policy-makers.

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Open Publishing Infrastructure Project at Ryerson

About The Project

This summer, eCampusOntario and Ryerson University will be spearheading an open publishing infrastructure project designed to enhance and expand eCampusOntario's planned Open Textbook Library.

This library, developed and shared by BCcampus, will provide access to over 180 high-quality, academically reviewed textbooks and open education resources (OER) for Ontario post-secondary students

eCampus Ontario

Wendy Freeman: Project Lead

"Ryerson University is proud of its continued and ongoing work and collaboration with eCampusOntario. Ryerson is deeply committed to and passionate about the ability to provide world-class open educational materials and resources to Ontario post-secondary learners to lower the barriers to access and empower localization by instructors,"

Dr. Wendy Freeman, Director, Office of E-Learning, at Ryerson University.

Four Key Project Workstreams

- A working Pressbook prototype with enhanced features
- Integrate an open source repository that will support the open textbook platform and other content
- Community building and knowledge mobilization
- Learning module authoring and distribution prototyping

Book Oven Partnership

PB PRESSBOOKS

The creation of a technology platform based on Pressbooks, an industry-standard book writing solution.

Pressbooks is simple book production software which exports into all the file formats you need to publish your books:
- MOBI format (for Kindle ebooks)
- EPUB format (for all other ebookstores)
- designed PDF (the "interior book file" for print-on-demand)
- more exotic XML formats

Pressbooks is used by authors, publishers and educational institutions around the world.

Pressbooks working with Ryerson University on eCampusOntario grant: "Open Publishing Infrastructure"

We are very very excited to announce that we're working with eCampusOntario and Ryerson University to improve Pressbooks as an Open Textbook authoring tool, under the just-announced eCampusOntario project "Open Publishing Infrastructure for Ontario Post-Secondary Education, Learners".

Most of the development work we undertake under this grant will be released as open source improvements to the Pressbooks GPL codebase — so anyone using Pressbooks will benefit.

Pressbooks as we've dreamed since, well, 2010

This project is going to allow us to develop some of the most exciting capabilities of Pressbooks, something we have been dreaming of since, well, since I started working on Pressbooks way back in 2011.

In particular, we will be making some very visible improvements, including a redesign of the "textbook" interface for reading Pressbooks books online and a refresh of the standard catalog page for dedicated Pressbooks instances (such as this one, hosted by BCcampus).

Ryerson Partnerships and Advisors

A cross-functional working group at Ryerson University will be driving a prototype infrastructure to support the Open Textbook Repository. The Ryerson team includes:

- E-Learning Office
- Ryerson University Library & Archives
- Chang School, Digital Education Strategies (DES)
- Computing and Communications Services (CCS)
- Learning and Teaching Office (LTO)

The Ryerson team is supported by several key advisory partners:

- Ontario Council of University Libraries (OCUL)
- Ontario College Library Service (OCLS)
- University of Waterloo
- Queen's University

Queen's UNIVERSITY **OCUL** Ontario Council of University Libraries **ocls** Ontario College Library Service

UNIVERSITY OF WATERLOO **Scholars Portal** A Service of the Ontario Council of University Libraries

Community Building

Ryerson University is engaging in ongoing promotion, information sharing and leadership activities across Ontario to support Open Education Resources (OER) community building, knowledge mobilization, skill-building and development.

This will also include the Sprint model, where project members and OER community members can gather together and work on open educational resource creation and training.

For more information about upcoming events visit: **library.ryerson.ca/open/events/**

Project Planning

Publications
- Minutes and bi-weekly updates
- Monthly Web newsletter
- Product Schedule
- Google Drive

Final Reporting

Meeting & Events
- Weekly Workgroup
- Chair Committee (Bi-weekly)
- Troubleshooting Sessions (as needed)
- Team Building (Launch, midpoint, close)

Toolkit
- Project Charters
- E-mail Distribution Lists
- Meeting Support Templates
- Project Briefs & FAQs

Project Blog and Twitter: Regular Updates

INFRASTRUCTURE FOR OPEN PUBLISHING OF CURRICULUM RESOURCES PROJECT

News   Events   About The Project

MAY 8, 2017 BY DAILY
eCampus Ontario Awards Grant to Ryerson University

eCampusOntario Announces Ryerson University to Manage Prototype Development for Open Publishing Infrastructure of Curriculum Resources in Summer 2017

This summer, eCampusOntario and Ryerson University will be spearheading an open publishing infrastructure project designed to enhance and expand eCampusOntario's planned Open Textbook Library. This library, developed and shared by BCcampus, will provide access to over 180 high-quality, academically reviewed textbooks and open education resources (OER) for Ontario post-secondary students.

Read more

RECENT POSTS
Technical Backgrounders
Ryerson Project Team Members
eCampus Ontario Awards Grant to Ryerson University

RECENT COMMENTS

ARCHIVES

@RyersonOER

https://library.ryerson.ca/open/

Poster created by: Ann Ludbrook aludbrook@ryerson.ca and Tanya Pobuda tpobuda@ryerson.ca

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Ongoing Updates

INFRASTRUCTURE FOR OPEN PUBLISHING OF CURRICULUM RESOURCES PROJECT

About The Project ⌄   News ⌄   Events   Partners ⌄

ABOUT THE PROJECT
Edit

This summer, eCampusOntario and Ryerson University will be spearheading an open publishing infrastructure project designed to enhance and expand eCampusOntario's planned Open Textbook Library. This library, developed and shared by BCcampus, will provide access to over 180 high-quality, academically reviewed textbooks and open education resources (OER) for Ontario post-secondary students.

"Ryerson University is proud of its continued and ongoing work and collaboration with eCampusOntario. Ryerson is deeply committed to and passionate about the ability to provide world-class open educational materials and resources to Ontario post-secondary learners to lower the barriers to access and empower localization by instructors," said Dr. Wendy Freeman, director, Office of E-Learning, at Ryerson University.

library.ryerson.ca/open/

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Future Events

- OER Sprint Toolkit
- Late September Ontario-wide Librarian Sprint Day
- Open Access Week event
- Funding for OpenCon conference
- OLA Superconference Panel

Pressbooks Workgroup Tasks

Design

The overall design will be focused on branding a Pressbooks Textbook Creation and Editing system available to eCampusOntario members, and improving the overall design of the system.

Specific tasks will include:

- Developing and implementing a customized/branded design for an eCampusOntario Open Textbook authoring system
- Improvements to the Open Textbook catalog design and implementation
- Improvements to standard Pressbooks web-based "book" interface
- Custom template (web, pdf, epub/mobi) for eCampusOntario

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Pressbooks Workgroup Tasks

Implement WordPress core REST API
- This project will expose any openly licensed Pressbooks book (on any network) to the core REST API, meaning (among other things) that all content (metadata, books, chapters, images etc) can be queried.
- The REST API would also allow other applications to build on Pressbooks, and collections of Pressbooks books.
- **Status**: V2 API complete.

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Pressbooks Workgroup Tasks

Submission to DSPACE repository
- We are building a system to allow a Pressbooks book to be submitted to a DSPACE repository
- We are using the SWORD repository submission protocol
- **Status:** prototype repository submission is complete.

Pressbooks Workgroup Tasks

Cloning of books & collections
- Building on the API work, we are developing a system to easily "clone" a complete Pressbooks book
- This will allow any user to copy any openly licensed Pressbooks book (including all content, media etc) into a new version, to allow revision, remixing etc.
- This significantly improves on the export-import method currently used.
- **Status:**
  - V1 cloning is almost complete, allowing cloning within a Pressbooks network.
  - V2 will include ability to clone from any Pressbooks network.
  - V3 (probably out of scope) will include the ability to clone an entire collection

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Pressbooks Workgroup Tasks

AODA Compliance & Improvement

This project will ensure AODA compliance (for users/authors, and readers) of the OpenTextbook Editing and Creation system. This work will be done in collaboration with OCADU's Inclusive Design Research Center (IDRC). The project will include:

- An audit of the system (for authors and readers)
- Remediation, where necessary, of any problems identified
- Integration of the OCADU / FLOE User Preference Toolbar by default

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Pressbooks Workgroup Tasks

Follow-on Project Recommendations

This project will provide recommendations for next steps, and follow-on improvements, including, but not limited to, scoping and budgeting for:

- Development of proposals for mechanisms to offer any eCampusOntario member institution a dedicated, branded Pressbooks instance (co-branded with eCampusOntario)
- Improved support for annotation
- Integration with LTI/LMS systems
- Enabling single sign-on / user authentication
- Improvements in collaboration functions
- Improvements in EPUB3 import/export & round-tripping
- Publishing source code to open source software community
- eCampusOntario role in supporting OER development, adoption and support in Ontario

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A creative agency for meaningful digital projects.

———

Founded in 1998, we design the highest quality responsive websites and mobile apps.

Osheaga

Stellar performance - onstage and online

Thank you

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University

Agenda

BREAK - Caffeinate

11:00 a.m.

Demo and Prototype Overview
- Architectural Overview
  Dean Irvine, Agile Humanities
- Pressbooks Demo
  Apurva Ashok, Pressbooks
- Q&A - All

12:00 p.m. - 1:00 p.m. Lunch
1:00 - 2:30 p.m. Breakout sessions -Rotating sessions at 1:10, 1:50, 2:10 p.m.
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2:30-2:45 p.m. - Coffee Break
2:45 p.m. - 3:45 p.m. - End of day reporting
Reports from each of the groups
3:45 p.m. Concluding remarks - Dr. Wendy Freeman

Afternoon Preview

1:00 - 2:30 p.m.

Rotating Breakout sessions
    1:00 | 1:30 | 2:00

User Front-End (Agile) - Room #SLC508

Pressbooks Authoring Platform - Room #SLC515

OER Module Creator (Lars and DES) - Room #SLC516

Repository/Metadata - Room #SLC508

2:30 p.m.
Refresh

2:45 p.m. - 3:45 p.m.
Reports from each of the groups

3:45 p.m.
Concluding remarks

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- Wireless network: SSID RU-Secure.
    - Username: oerusability
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Project Planning

✓ Launched

Meetings & Events

Toolkit

Minutes and bi-weekly updates	Weekly Workgroup	Project Charters
Bi-Weekly Web Posts	Team Building (Launch, midpoint, close)	E-mail Distribution Lists
Product Schedule	Chair Committee (Bi-weekly)	Meeting Support Templates
Google Drive	Trouble-shooting Sessions (as needed)	Project Briefs & FAQs

Final Reporting

Key Decision Log	Schedules & Activities Log	Technical Documentation	Lessons Learned

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