Learning Analytics, Digital Education, and Innovation at U-M

• Launching DEI
• Unizin Update
• Emerging Policy framework for LA
Part I:
Launching Digital Education and Innovation
Vision:
To redefine public residential education at a 21st century research university through the creative use of technology and targeted experimentation with digital programs in order to enable engaged, personalized and lifelong learning for the entire Michigan community.
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“Toward Coherence”

Curricular Innovation
- Programs and Certificates
- Flipped Courses and Programs
- Maker Spaces for Residential Learners
- MOOCs and SPOCs

Leadership in Analytics
- Personalization and Predictive Analytics
- Advising/early warning
- Collaboration and Prototyping
- Instructional Design and Gamification

Digital Infrastructure At Scale
- Networks
- Learning Management Systems
- Digital Libraries
- Digital Ecosystems

Curricular Innovation
- Digital Infrastructure
- Learning Management Systems
- Digital Libraries
- Digital Ecosystems
Elevator Pitch

Who?
Venture Fund
Consulting Services
DEI Lab
USE Lab
Digital Innovation Greenhouse

Why?
Curricular Innovation
Learning Analytics
Digital Infrastructure at Scale

What?
To redefine public residential education at a 21st century research university ... in order to enable engaged, personalized and lifelong learning ...

How?
U-M residential community and beyond
We’ve conceptualized a model that translates our vision to scholarly and practical operations…

<table>
<thead>
<tr>
<th>Venture Fund</th>
<th>Consulting Services</th>
<th>DEI Lab (DEIL)</th>
<th>USE Lab</th>
<th>Digital Innovation Greenhouse</th>
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<tbody>
<tr>
<td>How do we harvest innovation to transform residential learning?</td>
<td>How do we frame, position, enable, accelerate, prototype and guide?</td>
<td>How do we enable curricular innovation and experimentation?</td>
<td>How do we use learning analytics and advance scholarship?</td>
<td>How do we grow digital engagement innovations to enable personalization at scale?</td>
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Seed and Scale | Develop and Partner | Design and Experiment | Research and Analytics | Cultivate and Accelerate
Part II: Unizin Update
Unizin

A University/Member-Owned Service Aimed at Controlling the Emerging Digital Ecosystem
Fodder

Teaching/Learning Ecosystem in the Traditional Physical Environment

Interaction

Results

Content
- Writing
- Audio/Video/Photo
- Problem sets
- Talks
- Simulations
- Data

Applications
- Lectures/Tests
- Labs
- Seminars
- Projects
- Essays
- Discussion

Outcomes
- Grades
- Concept Mastery
- Critical Thinking
- Habits of Minds
- Quality of Life
Increasingly, digital ecosystems are infrastructure—more like common gauge rails than differentiating features of a university.
The Challenge:
Who will control the emerging digital ecosystem?
Enter Unizin

A University/Member-Owned Service Aimed at Controlling the Emerging Digital Ecosystem that reflect three principles:

• Digital content, software platforms, and data analytics (collectively, “Service”) are essential and strategic capabilities that enable universities’ core mission of education.

• We have a vested interest in staying in control of our data, our students, our content, and our reputation/brand.

• Directing these integrated capabilities as an academy-owned set of loosely coupled services is an important means to protect universities’ interests over time. Ownership affords control.
Unizin Strategy

A University/Member-Owned Service Aimed at Controlling the Emerging Digital Ecosystem

Strategy:

• Approach technology platform decisions as strategic decision, not just feature set comparisons.
• Approach control of digital ecosystem like we approached control of the network ecosystem (Leverage the lessons/successes we’ve had from Internet2)
• Favor (demand) loosely coupled ecosystem
• Take advantage of scale and collaboration—aggregate demand and requirements
• Acquire services/technology on favorable terms. Build only where you must. Invest development in pushing standards and creating reference implementations.
• Unizin is about synchronizing capital and demands, not about community development.
Unizin selected Instructure’s Canvas LMS as the first service. What was attractive about Canvas?

• Largely open-source. Where it isn’t, they will provide source code in the event that we part ways.
• Aggressively pushing standards-based approaches to tools and data (e.g., LTI, common cartridge, caliper). If you want LTI apps, they have the first store.
• Currently best in class LMS judging by adoption rates
But Unizin has to be much more than LMS—it’s about the digital ecosystem that links content, applications, and data.
Unizin Roadmap through Spring 2015

Content Sources

Spring 2015

- Institutional Repositories
- Open Education Repositories
- Hathi Trust

Learning Management

Fall 2014
- Canvas

Spring 2015
- Unizin Content Relay
- Unizin Extensions
Unizin Roadmap through Fall 2015

Content Sources

- Spring 2015
  - Institutional Repositories
  - Open Education Repositories
  - Hathi Trust

- Fall 2015
  - Extend Existing Sources
    - Faculty-developed Content
    - Commercial Content Publishers

Analytics Sources & Tools

- Fall 2015
  - Unizin Shared Data Warehouse
  - Institutional Databases
  - E² Coach
  - GradeCraft
  - Commercial Analytics Tools

Learning Management

- Fall 2014
  - Canvas

- Spring 2015
  - Unizin Extensions

- Fall 2015
  - Unizin Analytics Relay

- Spring 2015
  - Unizin Content Relay
In Praise of Digital Workflows: Killer App for the 21st Century
In Praise of Digital Workflows: Killer App for the 21st Century
I want students to have access to eText from publisher
I want to deposit the simulation I built in Merlot

Publisher

Hathi

OER

Publisher

Institutional Repository

Chronopolis

Content Routing (in/out)

Application (LMS, DMS, or ...)

Data Routing (mostly Out, at Least at First)

eCoach

GradeCraft

Unizin Data Warehouse

CIC Data Warehouse
I want students to use a simulation that’s in Merlot
I want to release a study guide under CC license
I want to deposit my thesis in the IR
I want to deposit data in a data repository for preservation

Publisher

Hathi

OER

Publisher

Institutional Repository

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Unizin Data Warehouse

Unizin Data Warehouse

Chronopolis
And then there’s analytic workflows
Content Routing (in/out)

Application (LMS, DMS, or ...)

Data Routing (mostly Out, at Least at First)

data coach

GradeCraft

Unizin Data Warehouse

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