Delivering an online master's degree program using Open edX

ExtensionEngine®

Hello, my name is...

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About ExtensionEngine

We develop innovative online learning for high-stakes projects where a differentiated solution is needed.

With a staff of about 200 experts, we help our clients with each aspect of building a **custom learning experience**, including strategy, project management, instructional design, UX/UI, creative, development/QA, hosting/support and learner acquisition. We operate on a fee-for-service basis and have deep expertise in Open edX.

HARVARD UNIVERSITY

KAUFFMAN The Foundation of Entrepreneurship

SmithsonianX

UNIVERSITY OF NOTRE DAME

Who might find this talk interesting...

- You are (or are planning) to offer an online degree
- You have (or are) using Open edX and are looking for additional use cases
- You are considering using Open edX as your core learning platform, but want to wrap it with a different user experience and integrate it with pedagogy-specific tools

Learning Goals: After this talk, you will know...

1. Reasons to use Open edX for an online degree program
2. How to wrap Open edX with other tools
3. Lessons learned
4. Q&A

Some background

About the University of Notre Dame

Online Master's in Data Science program

The Opportunity	Program Vision	Program Characteristics	Graduate Characteristics
"We have created more data in the last three years than we did in all of prior human history... the need for skilled data scientists in all industries is only going to grow.	"The program fosters analytical precision and creative problem-solving, with an emphasis on applied projects and case studies."	"The program uses a student-centered digital pedagogy to improve student learning outcomes.	"They will possess the computational and quantitative insight to understand data analysis as a process and methodology, from data acquisition to modeling to presentation."

When you innovate, there is always a visionary...

Master’s in Data Science

- This is the first, **fully-online master's degree**.
- Notre Dame is recognized by its **‘family’** environment, so the desire to create the same experience in a **virtualized environment** is a necessity.
- Program’s initial focus is quality (**~60 students** per cohort) then scale.
- **AT&T** is in collaboration with Notre Dame in the M.S. Data Science Program, and a portion of their **employees will be students** of this program.

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Program curriculum

- There are **13 courses (30 credits)** within the Data Science program delivered in a fully **online format**.
- Students come to campus for kick-off
- Program designed to enable learners to have structured and informal interaction with faculty and peers.
- 21 months (half time for first semester)
- Two other live immersions in Palo Alto and Dallas

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The decision process

- Competitive landscape (20+ online data science programs)
- Must be differentiated
- Must leverage existing ND capabilities and resources
- Must leverage AT&T relationship
- Must fit within budget
- Must retain control

Custom Learning Experience

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Key functionality

General degree program needs

- Time-gated asynchronous learning paths
- Synchronous learning
- Regular performance feedback
- Proctored high-stakes tests
- Event management
- SIS integration

Data science at ND

- Awesome UX
- Programming
- Auto grading
- Social (faculty, peer interaction)
- Environment Integration

NeXus: Custom + Open edX

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Project overview

Scope:

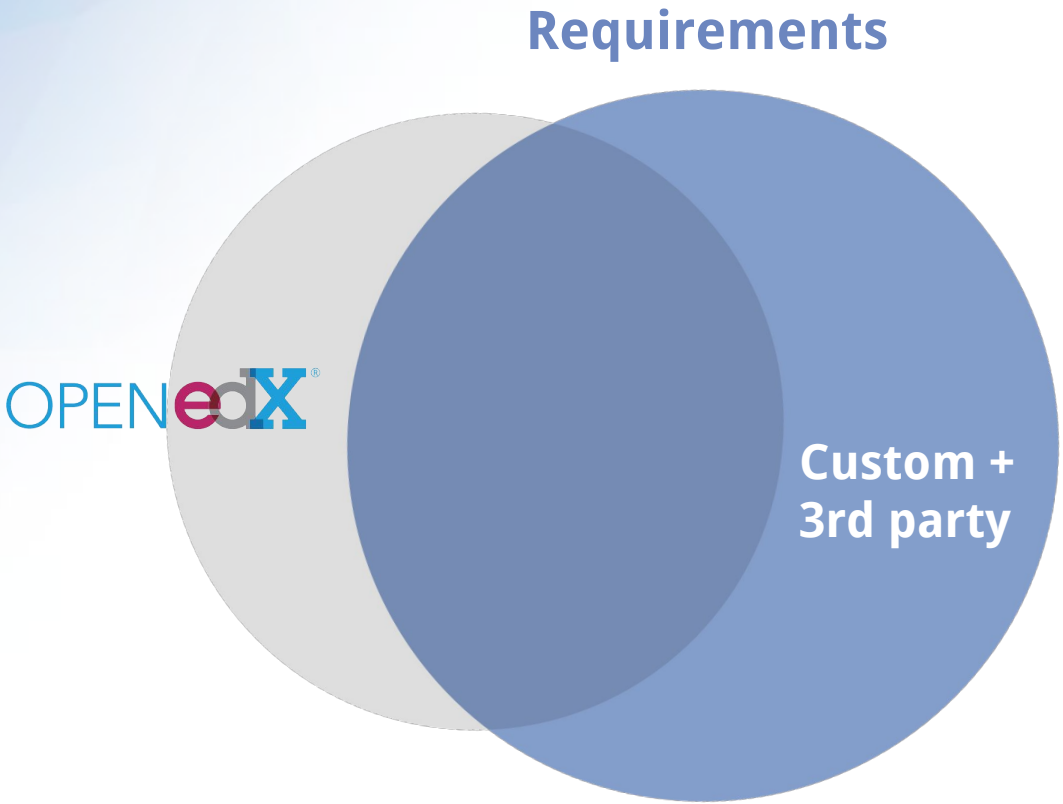
- Platform: Design & build an integrated, Open-edX-based learning platform including all the Xblocks required to support the MDS program
- Courses: Partner with ND faculty, staff and other experts for design of 13 courses
- Marketing: Promote program to enroll students

Schedule: <12 months from start to first-student-in

Budget: Much less than half the cost of an OPM vendor

Faculty: Work with 14 faculty across three schools

Our approach



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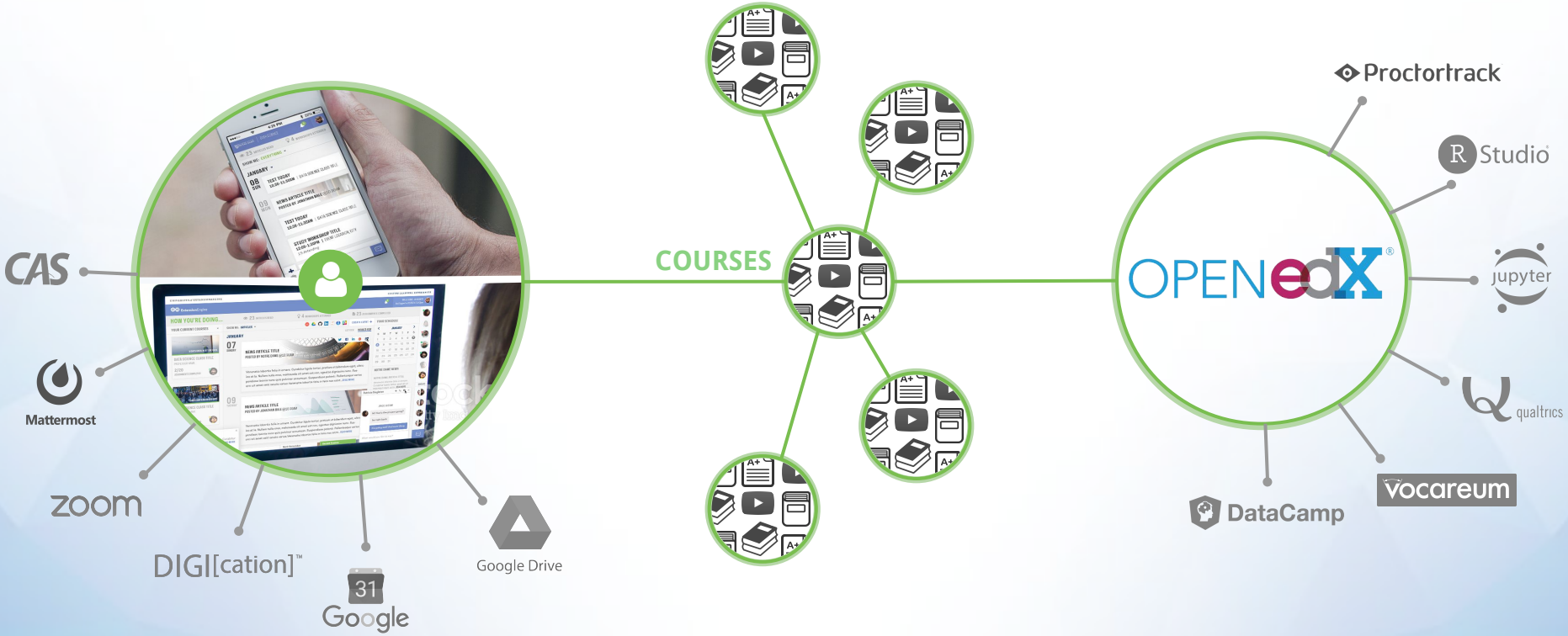
NeXus: A Custom Learning Experience



SIS Integrated Log-in

Security

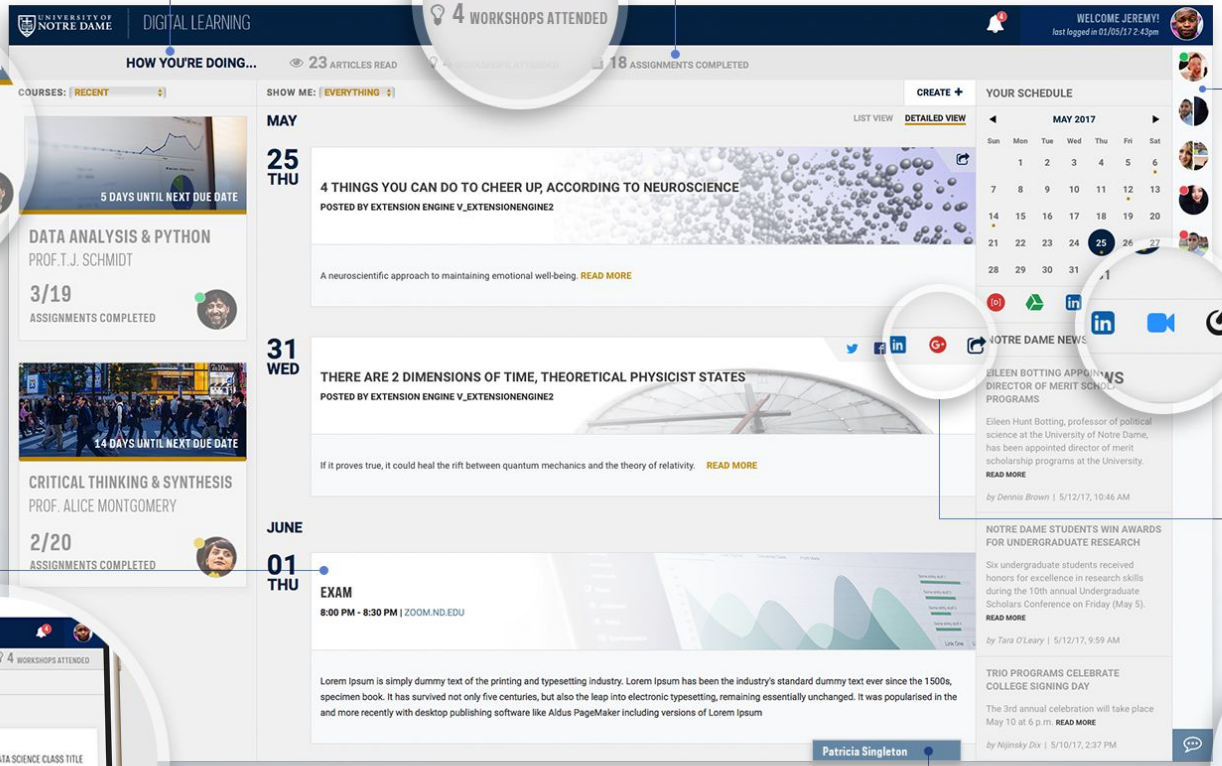
Learner Dashboard

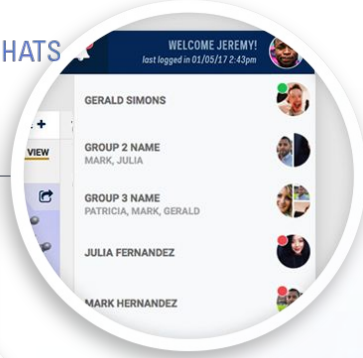
Open edX

Dashboard

ACTIVITY TRACKER

RECENT PERSONAL & GROUP CHATS



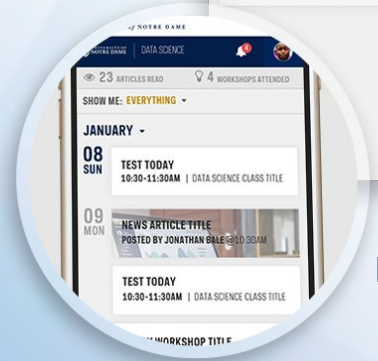


Course Icons, assignments/Exams lever an API that takes the User directly to that location in Open edX.

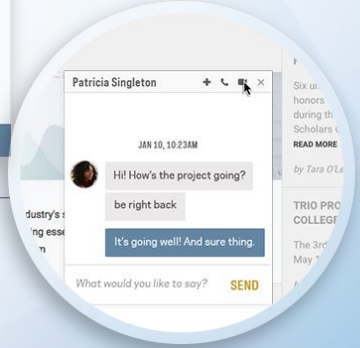
BAR FOR LOCATING THIRD-PARTY TOOLS.

99% CAS controlled with exception of LinkedIn

EMPHASIS ON SHARING ARTICLES ON SOCIAL MEDIA

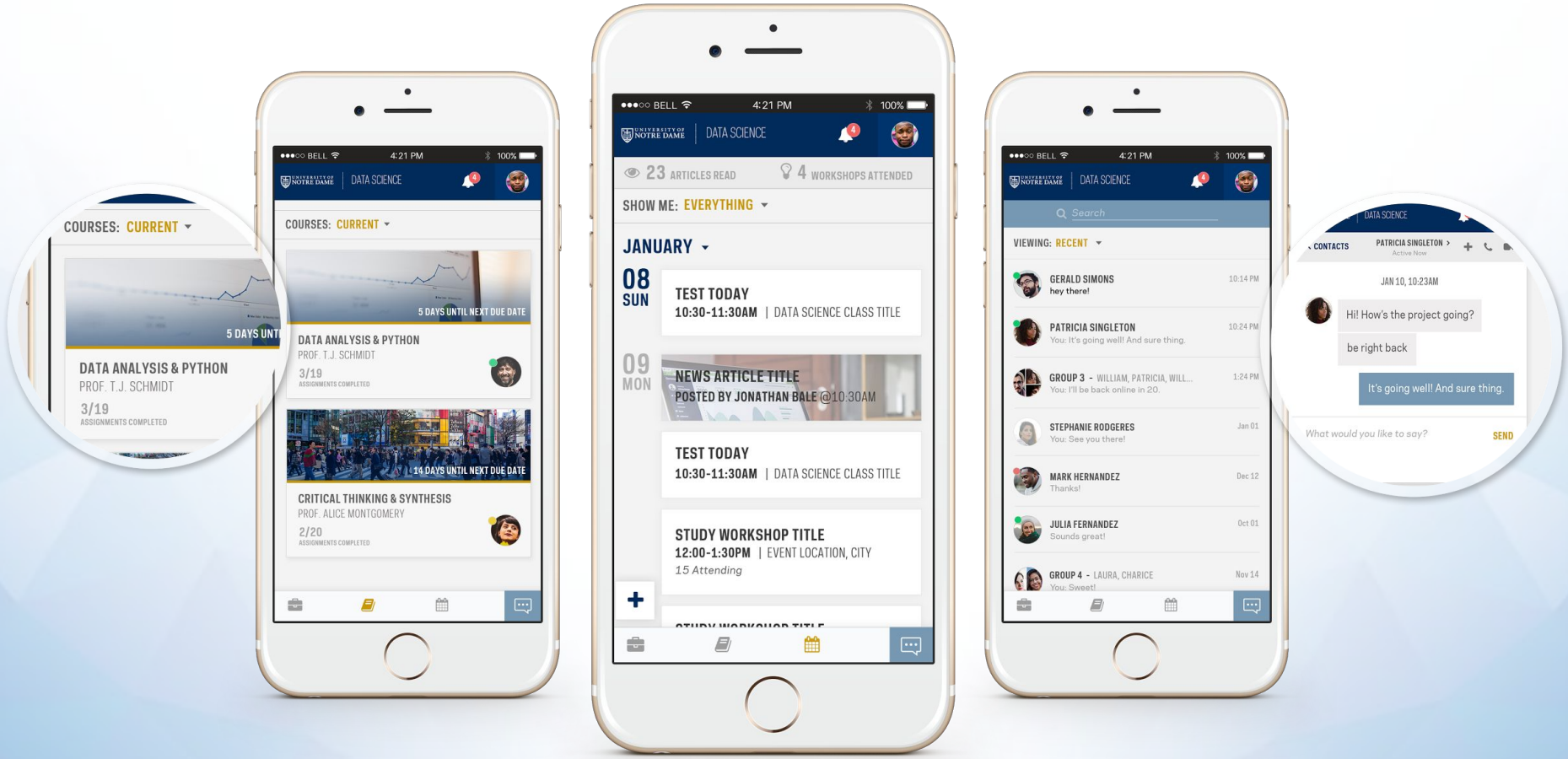


MOBILE OPTIMIZATION



PERSONAL & GROUP MESSENGER

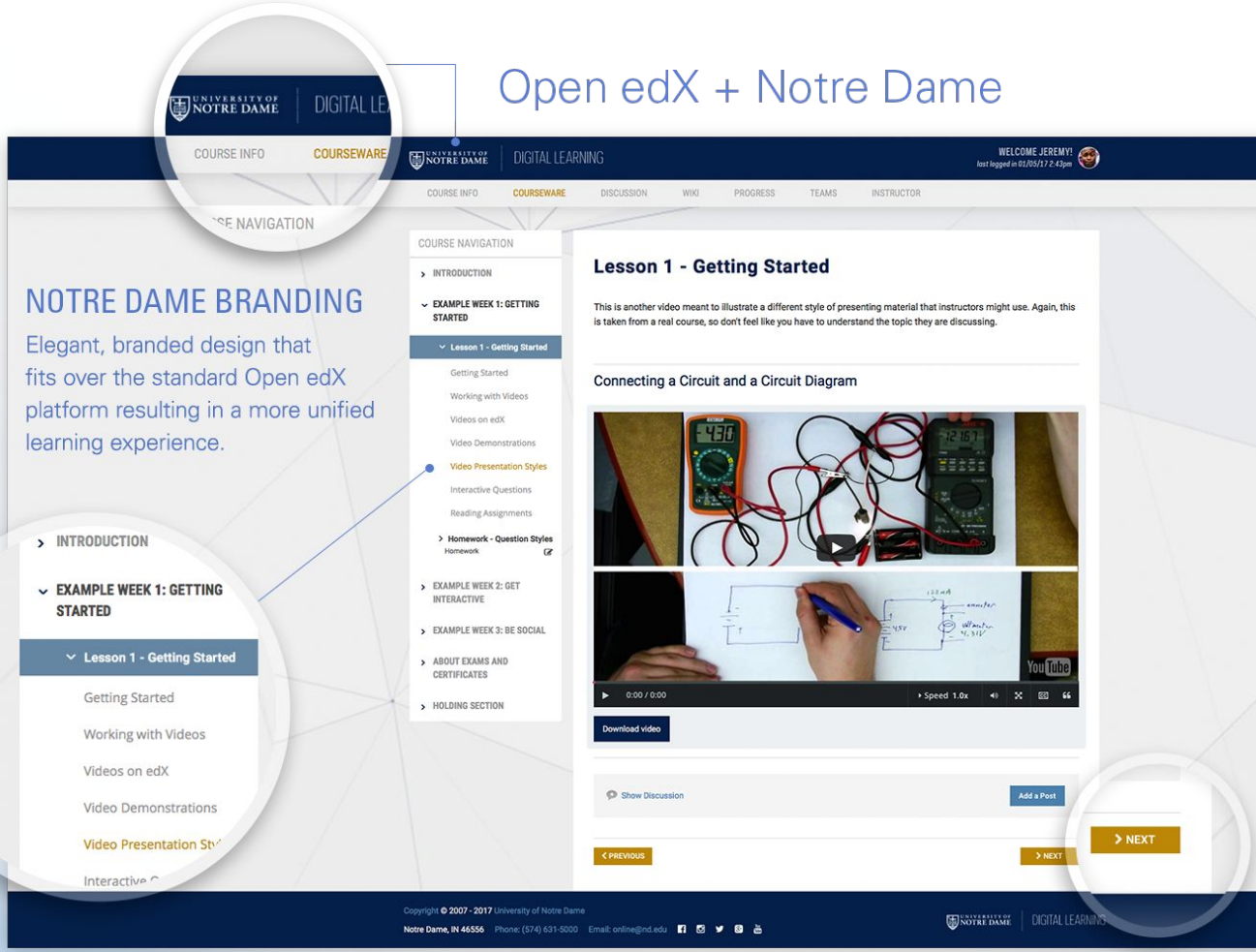
Mobile Learning Platform



Open edX + Notre Dame

NOTRE DAME BRANDING

Elegant, branded design that fits over the standard Open edX platform resulting in a more unified learning experience.



Open edX customizations

Gradebook

- Manual Grading
- Group Projects
- Inline grading
- Summative Points
- Custom score view
- Custom data export
- Supports extended point entries

Nested xblock

- Multiple custom created templates
- Customizable courseware layout to support content and verbiage layout. (i.e. videos, text, images.)

Theme

- Custom theme created with Notre Dame's branding guidelines and color schema in mind.

Lessons Learned

Lessons learned

- Pedagogy first
- Let Open edX be Open edX
- A visionary champion is vital to program success
- Experiment with tools and approaches
- Test early, test often

NeXus

If you are interested in using NeXus, Notre Dame is open to a small number of partners.

Contact me if you would like to learn more.

Any questions?

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Thank you