

MIT LORE

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Outline

- ▶ Motivation
- ▶ Goal
- ▶ About LORE
- ▶ Technical overview
- ▶ Demo
- ▶ What's next
- ▶ Credits and Acknowledgements
- ▶ Questions

Outline

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Motivation

MITx runs multiple courses with similar content running on different instances of OpenEdx, authored by the same team of course authors

Course authors need an efficient ways to discover, share and catalog the content from all these courses with the goal of using the content in future courses.

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Goal

The Learning Objects Repository for Education (LORE) project seeks to build a library of online “learning objects” that will enable the efficient reuse of resources from previous MITx (OpenEdx) courses by professors and instructional staff.

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Learning Objects Repository*

A learning object repository is a kind of digital library. It enables educators to share, manage and use educational resources.

A more narrow definition would also require that repositories implement a metadata standard.

* http://edutechwiki.unige.ch/en/Learning_object_repository

What is LORE

LORE is an open source web application that enables academic institutions to offer a multitenant, SaaS solution that enables professors and instructional staff to :

- ▶ Discover
- ▶ Catalog & curate
- ▶ Reuse

OpenedX course materials in their future courses.

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Multitenant

MIT LORE

ferdial ▾

Create repository

Your repositories

[ferdit](#)

Multitenant - users

Search for terms in learning resource titles, descriptions or content...



Multitenant - users

Search for terms in learning resource titles, descriptions or content...



Multitenant - users

The screenshot shows the MIT LORE interface with a modal window titled "Members for Repository: ferdit". The modal window contains a table of users and their roles. The background interface includes the MIT LORE logo, navigation links for "Import Course" and "Manage Taxonom", and a search bar.

kerberos id	*	@mit.edu	Author	+
pdpinch@mit.edu			Administrator	-
pwilkins@mit.edu			Administrator	-
ferdial@mit.edu			Administrator	-
gdimilia@mit.edu			Curator	-
milochik@mit.edu			Author	-

MIT LORE

Import Course Manage Taxonom

Search for terms in learning resource titles, desc

vertical 1403 8.MechCx 1T2015

What is LORE

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Discover - Import

 **LORE**

 Import Course

 Manage Taxonomy

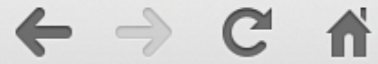
 Manage Members

ferdial 
Repository: [ferdit](#)

Search for terms in learning resource titles, descriptions or content...



Discover - Import



lore.odl.mit.edu/repositories/ferdit/



ferdial ▾
Repository: ferdit

Upload content in OLX format

Course file

Choose File No file chosen

★ Upload Course

Discover - Import

Search for terms in learning resource titles, descriptions or content...



Course

- 8.MechCx 4175
- 8.MReVx 789
- 8.01 687

Run

- 1T2015 4175
- 2T2014 789
- 2014_Fall 687

Item Type

- problem 1982
- vertical 1403
- discussion 1064
- html 758
- sequential 273
- video 104
- chapter 64
- course 3

Sort by: Number of Views (desc)

Warmup: Using a Direct Measurement Video
Advanced Introductory Classical Mechanics / 1: Newton's Laws of Motion / LAB 1: Relating Force and Acceleration / Lab Activity: Relating Force and Acceleration / Warmup: Using a Direct Measurement Video
No description provided.
8.MechCx 1T2015 10000 597 68.0 [Preview](#) [Export](#)

discussion_4141e5faf9a3
Mechanics ReView / 3: Applying Newton's Laws / Constrained Motion and Constraint Forces / Constraints on a Single Point Particle / discussion_4141e5faf9a3
asdfadsf
8.MReVx 2T2014 9998 805 83.0 [Preview](#) [Export](#)

Numerical Response
Advanced Introductory Classical Mechanics / 0: Introduction / Learn about Homework / Numerical Response
No description provided.
8.MechCx 1T2015 9997 809 82.0 [Preview](#) [Export](#)

The Calculus of 2D Motion
Advanced Introductory Classical Mechanics / 6: Applying SIM to Problems in Planar Dynamics / The Calculus of 2D Motion [Export](#)

Discover - Context

Search for terms in learning resource titles, descriptions or content...



Course

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8.MechCx 1T2015 10000 views 597 edits 68.0 grade Preview

Export



discussion_4141e5faf9a3

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asdfadsf

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Export



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Discover - Context



View this course as: Staff

Courseware

Course Info

Syllabus

Discussion

Calendar

Progress

Resource Wiki

Instructor

Beta Testers and Community TAs

0: Introduction

Introduction to the course

Learn about Homework

Quiz Zero

Entrance Survey

Acknowledgement

1: Newton's Laws of Motion

2: Interactions and Forces

3: Applying



VIEW UNIT IN STUDIO

NUMERICAL RESPONSE (3 points possible)

You will often be asked for the numerical solution of a problem. An example can be the following. A car is moving at the constant velocity of 50 miles per hour. What is the distance in meters covered by the car in 1 hour? (The system only accepts a number for this type of question, so do not include the units!)

*Clicking on "show answer" will only show you the answer **after** the due date. You will not be able to see them beforehand.*

Notice that for such questions, the system is programmed to accept an approximate answer to avoid rounding errors. For example, the previous question has a tolerance of 5%.



Discover - Search

moon



Course

- 8.MechCx 43
- 8.01 11
- 8.MReVx 9

Run

- 1T2015 43
- 2014_Fall 11
- 2T2014 9

Item Type

- sequential 16

Sort by: Number of Views (desc)



Storage

Advanced Introductory Classical Mechanics / Storage

No description provided.

8.MechCx 1T2015

9920

83

83.0

Preview

Export



How Does Gravity Affect Vertical Oscillations? Part 4

Advanced Introductory Classical Mechanics / 14: Simple Harmonic Oscillation / Lab 14: Simple Harmonic Oscillations / Block and Spring: Vertical Oscillations / How Does Gravity Affect Vertical Oscillations? Part 4

No description provided.

8.MechCx 1T2015

9900

428

69.0

Preview

Export



Causes of Circular Motion

... / Week 4 (Sept 22-26) / W4D2 Reading Questions / Causes of Circular Motion

No description provided.

8.01 2014_Fall

9777

76

68.0

Preview

Export

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Catalog & Curate

- ▶ Static metadata
- ▶ User defined taxonomy system
- ▶ Dynamic Metadata (Analytics system integration)

Static metadata

Search for terms in learning resource titles, descriptions or content...



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[Export](#)



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Mechanics ReView / 3: Applying Newton's Laws / Constrained Motion and Constraint Forces / Constraints on a Single Point Particle / discussion_4141e5faf9a3

asdfadsf

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[Export](#)



Numerical Response

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Taxonomy

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8.MechCx 1T2015 9997 809 82.0 [Preview](#)

[Export](#)



The Calculus of 2D Motion

Advanced Introductory Classical Mechanics / 6: Applying SIM to Problems in Planar Dynamics / The Calculus of 2D Motion

[Export](#)

Taxonomy

MIT LORE [Import Course](#) [Manage Taxonomy](#)

Search for terms in learning resource titles, descriptions, and metadata

Sort by:

Course

- 8.MechCx **4175**
- 8.MReVx **789**
- 8.01 **687**

Run

- 1T2015 **4175**
- 2T2014 **789**
- 2014_Fall **687**

Item Type

- problem **1982**
- vertical **1403**

Warmup: Using a Direct Measure
Advanced Introductory Classical Mechanics / Relating Force and Acceleration / Warmup: Using a Direct Measure
No description provided.
8.MechCx 1T2015

discussion_4141e5faf9a3
Mechanics ReView / 3: Applying Newton's Laws / Forces / Constraints on a Single Particle
asdfadsf
8.MReVx 2T2014

Numerical Response
Advanced Introductory Classical Mechanics / Homework / Numerical Response
No description provided.
8.MechCx 1T2015

Manage Taxonomy

Vocabularies [Add Vocabulary](#)

Learning Objectives

- lo1
- lo2

Difficulty

- easy
- medium
- hard

Taxonomy

MIT LORE Import Course Manage Taxonomy

Search for terms in learning resource titles, descriptions, and metadata

Sort by: Number of Views (desc)

Course

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- 2014_Fall **687**

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Advanced Introductory Classical Mechanics / Relating Force and Acceleration / Warmup: Using a Direct Measure
No description provided.
8.MechCx 1T2015

discussion_4141e5faf9a3
Mechanics ReView / 3: Applying Newton's Laws / Forces / Constraints on a Single Particle
asdfadsf
8.MReVx 2T2014

Numerical Response
Advanced Introductory Classical Mechanics / Homework / Numerical Response
No description provided.
8.MechCx 1T2015

Manage Learning Resource

Metadata XML Static Assets

Vocabularies Learning Objectives

Terms x lo1 x lo2

Terms applied to this Learning Resource

Learning Objectives: lo1, lo2

Difficulty: easy

Description

Save Save and Close Preview

Taxonomy







-  problem 1982
-  vertical 1403
-  discussion 1064
-  html 758
-  sequential 273
-  video 104
-  chapter 64
-  course 3

▼ Difficulty

- not tagged 5648
- easy 1
- hard 1
- medium 1

▼ Learning Objectives

- not tagged 5649
- lo2 2
- lo1 1

-  Homework / Numerical Response
No description provided.
8.MechCx 1T2015 👁 9997 ✍ 809 🎓 82.0 [Preview](#)
-  **The Calculus of 2D Motion** [→ Export](#)
Advanced Introductory Classical Mechanics / 6: Applying SIM to Problems in Planar Dynamics / The Calculus of 2D Motion
No description provided.
8.MechCx 1T2015 👁 9996 ✍ 903 🎓 65.0 [Preview](#)
-  **MBT 8** [→ Export](#)
Advanced Introductory Classical Mechanics / Questions for 8.01x / Questions for 801 Final / MBT 8
some description
8.MechCx 1T2015 👁 9995 ✍ 419 🎓 72.0 [Preview](#)
-  **Two connected blocks, an inclined plane with friction** [→ Export](#)
Mechanics ReView / Homework for Unit 3: Applying Newton's Laws / Applying Newton's Laws Homework / Two connected blocks, an inclined plane with friction
No description provided.
8.MReVx 2T2014 👁 9994 ✍ 389 🎓 97.0 [Preview](#)
-  **Describing Rotational Motion** [→ Export](#)
Advanced Introductory Classical Mechanics / 10: Torque and Rotation about a Fixed Axis / Choosing an Axis of Rotation and Describing the Direction of Rotation / Describing Rotational Motion
No description provided.
8.MechCx 1T2015 👁 9994 ✍ 772 🎓 82.0 [Preview](#)
-  **Applying Newton's Laws Introduction** [→ Export](#)
Mechanics ReView / 3: Applying Newton's Laws / Applying Newton's Laws / Applying Newton's Laws Introduction
No description provided.

Analytics

Search for terms in learning resource titles, descriptions or content...



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8.MechCx 1T2015

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Preview

Export



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Mechanics ReView / 3: Applying Newton's Laws / Constrained Motion and Constraint Forces / Constraints on a Single Point Particle / discussion_4141e5faf9a3

asdfadsf

8.MReVx 2T2014

9998 805 83.0

Preview

Export



Numerical Response

Advanced Introductory Classical Mechanics / 0: Introduction / Learn about Homework / Numerical Response

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8.MechCx 1T2015

9997 809 82.0

Preview

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The Calculus of 2D Motion

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Export

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Reuse

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Course

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No description provided.

8.MechCx 1T2015

10000

597

68.0

[Preview](#)

[Export](#)



discussion_4141e5faf9a3

Mechanics ReView / 3: Applying Newton's Laws / Constrained Motion and Constraint Forces / Constraints on a Single Point Particle / discussion_4141e5faf9a3

asdfadsf

8.MReVx 2T2014

9998

805

83.0

[Preview](#)

[Export](#)

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8.MechCx 1T2015

10000

597

68.0

[Preview](#)

Export 2



discussion_4141e5faf9a3

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asdfadsf

8.MReVx 2T2014

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805

83.0

[Preview](#)

Export

Reuse

MIT LORE [Import Course](#) [Manage Taxonomy](#)

Search for terms in learning resource titles, descriptions, and metadata

Sort by:



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8.MReVx 2T2014

Numerical Response
Advanced Introductory Classical Mechanics / Homework / Numerical Response
No description provided.
8.MechCx 1T2015

Export (2)



Numerical Response

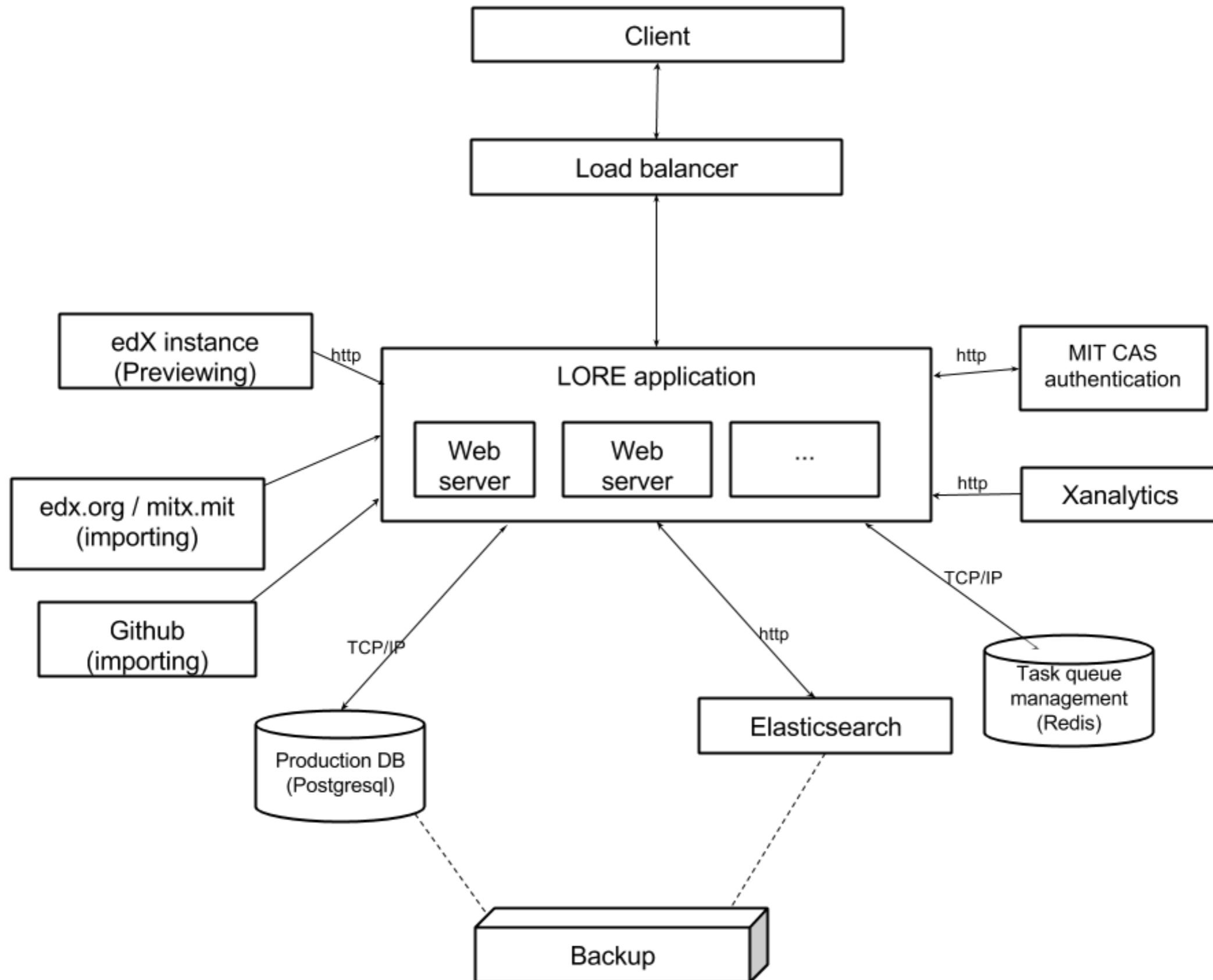
Warmup: Using a Direct Measurement Video

Export Selected Items

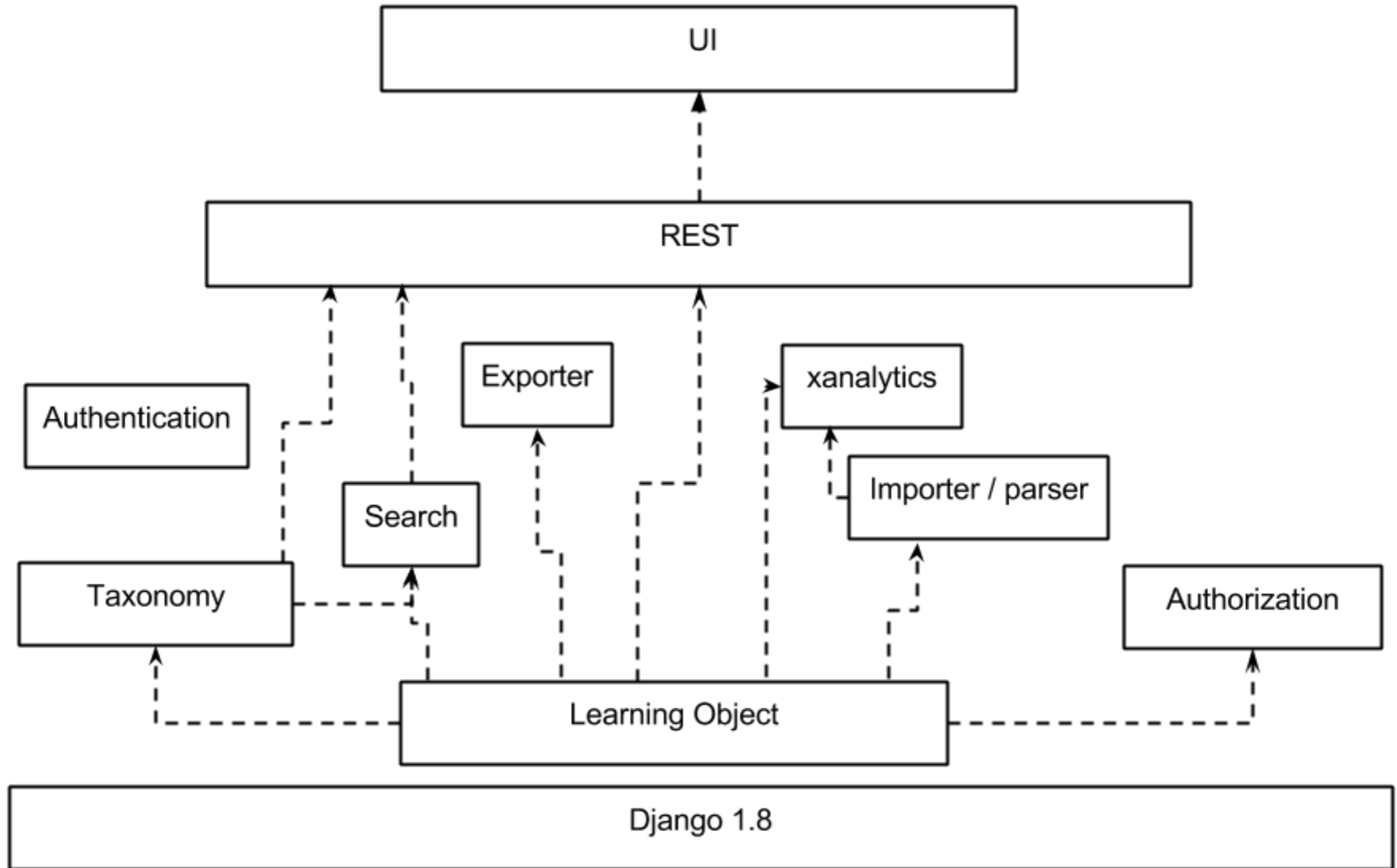
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Components & Connectors



Modules view



Technology

LORE is built based on a full stack of open source tools and technologies.

- ▶ Docker
- ▶ Django, Python, Postgres
- ▶ Elasticsearch
- ▶ Celery, Redis
- ▶ Bootstrap, Reactjs, Bower, Requirejs

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Demo

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What's next ?

- ▶ Unique identifier for Learning Objects
- ▶ Versioning of Learning Object
- ▶ Preserve Metadata during import export
- ▶ Better integration with edx / Openedx

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Credits and Acknowledgments

- ▶ Office of Digital Learning (ODL) at MIT
- ▶ Engineering Team at ODL
 - Brandon DeRosier, Giovanni Di Milia, Jamie Folsom, Carson Gee, Jamie Folsom, Shawn Milochick, Peter Pinch, Amir Qayyum, Peter Wilkins
- ▶ Physics Department at MIT
- ▶ edX team

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