

Drupal as a Learning Platform

Drupal can manage learning, too



<https://skvare.com>

@Skvare

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Drupal as a Learning Platform

- Has all the functionality one needs to create and operate an online learning platform
- Significantly lowers the barrier to entry for small and medium sized organizations
- Leverage all of Drupal's existing award-winning capabilities and thousands of modules
- Only open-source system with native LRS support
- Customize to meet your exact needs
- Scales to enterprise
- Own and control your data

Why Learning Systems are Used

- Traditional Education - Prepare for a career
- Continuing Education - Augment or update existing knowledge
- Single Course Learning Libraries -- Think Lynda.com
- Specialized Instruction -- SCUBA Diving, Defensive Driving
- Training - Safety, Policy, On the job skills
- Affect Societal Change
- Marketing

Useful Terminology

Content Management System

(CMS) - organize, create, edit, display content

Learning Management System

(LMS) - software for the delivery, administration, and tracking of online educational content

Learning Record Store (LRS) -

stores and tracks all the user experiences and interactions in the LMS, or data entered manually for education completed elsewhere

Useful Terminology

Constituent Relationship Management (CRM) - Manage user profile, membership, mailings

Tin Can API - a specification for learning technology that makes it possible to collect data about the wide range of experiences a person has (online and offline).

Learning Management System (LMS)

A complete learning management system platform facilitates:

Content Creation - Create the learning courses and course content

Sales - Allow the learner to buy and gain access to courses

Presentation - display learning content on desktop, tablet, or mobile phone

Testing - verify success of the intervention, ask for feedback

Tracking and Storage - documents the learner's experiences and interactions

Administration - allows the educators to administer the learning content, organization, workflow, and tests

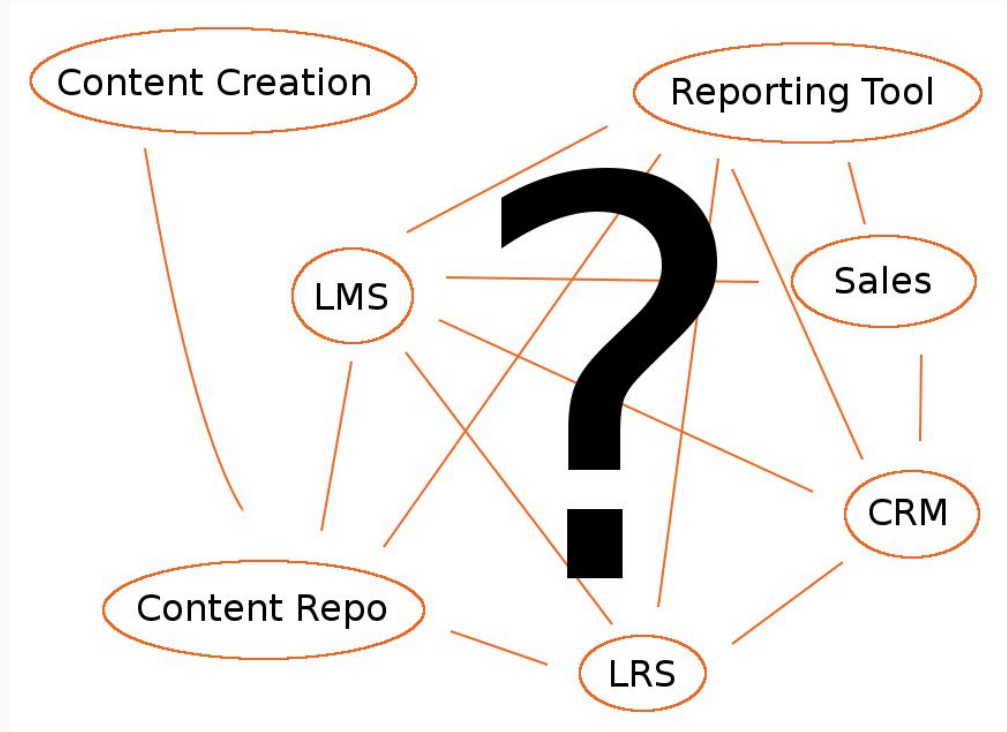
CRM - User profile, Memberships, Event Registration, Mass Email

Reporting - displays status and reports to both learners and administrators

Certificates, badges

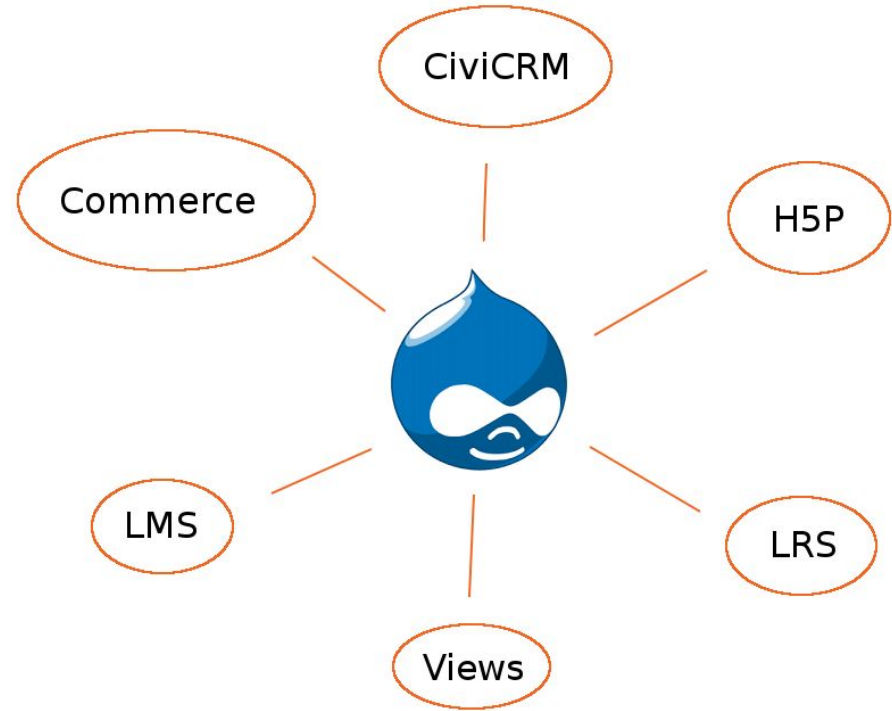
Current Software Marketplace Fragmentation

- Open source and proprietary options, on server or SaaS
- Difficult to use together as one system
- Make them talk together - Glue code
- Many Accounts, Keys, Logins
- License fees, Yearly Fees
- Data Sync



Drupal as a Learning Platform

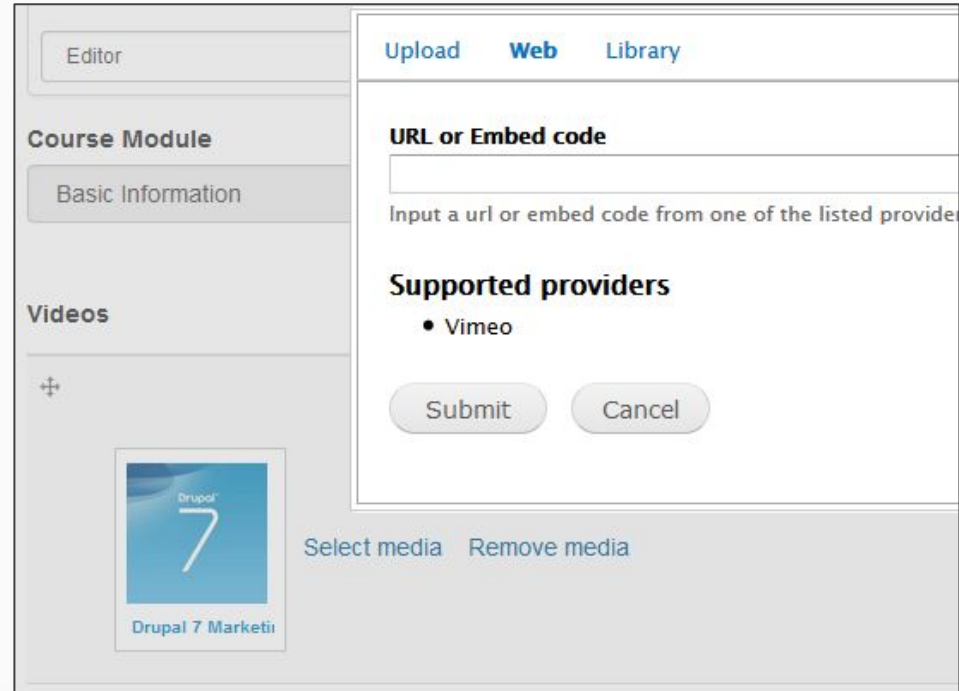
Drupal's award-winning features AND a module for everything you need



Why Drupal? - Content Creation

Drupal modules for all kinds of media

- Text, Files, Links
- Images
- Slideshows
- Audio and Video, native and 3rd party (YouTube, Vimeo, Amazon)
- Quiz
- Webform
- Interactive Video (H5P, the new awesomeness)



The screenshot displays the Drupal content creation interface. On the left, a sidebar shows the 'Editor' tab, 'Course Module' section with 'Basic Information', and a 'Videos' section with a plus sign and a 'Drupal 7 Marketii' thumbnail. The main content area is a modal dialog with tabs for 'Upload', 'Web', and 'Library'. The 'Web' tab is active, showing a 'URL or Embed code' input field, a prompt to 'Input a url or embed code from one of the listed providers', a list of 'Supported providers' including 'Vimeo', and 'Submit' and 'Cancel' buttons. At the bottom of the dialog are 'Select media' and 'Remove media' options.

Create, share and reuse interactive HTML5 content in your browser. Open-source, Drupal module.

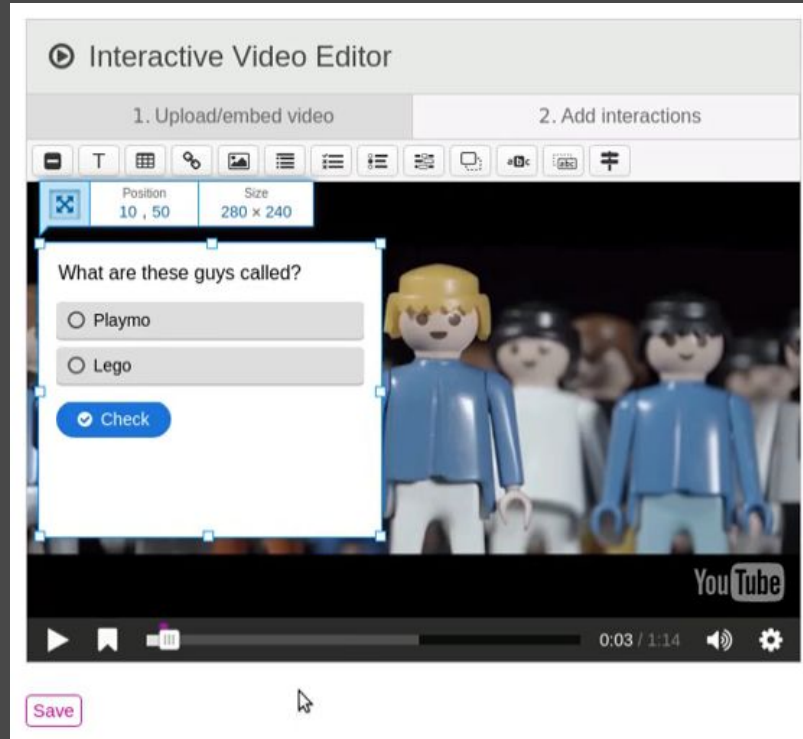
Create interactive video in the browser as easily as editing a node.

Authors may create and edit interactive videos, presentations, games, advertisements and more

Replicable and reusable, can export and import learning packages between systems.

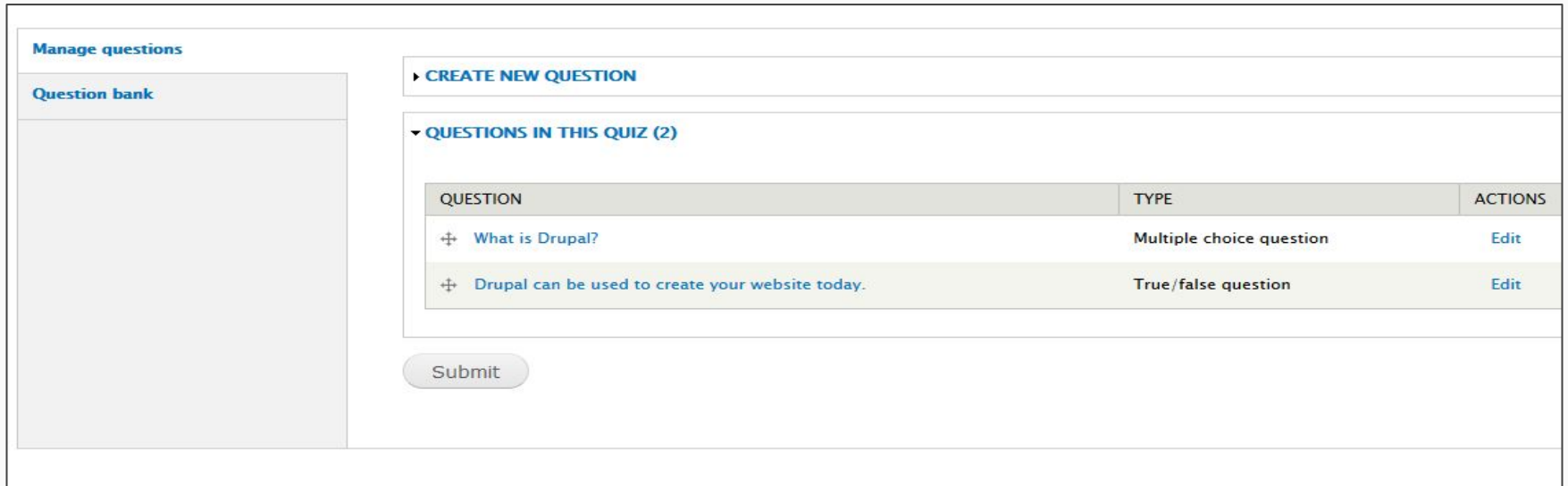
Lots of pre-made interaction types and content packages

H5P - Interactive Video, the new awesomeness



Why Drupal? - Testing and Survey

- Quiz Module
- H5P - also integrates with Quiz!
- Webform



The screenshot displays the Drupal Quiz module interface. On the left, there is a sidebar with a 'Manage questions' section and a 'Question bank' area. The main content area features a 'CREATE NEW QUESTION' button and a section titled 'QUESTIONS IN THIS QUIZ (2)'. This section contains a table with two rows of questions, each with a plus icon, the question text, the question type, and an 'Edit' link. Below the table is a 'Submit' button.

QUESTION	TYPE	ACTIONS
+ What is Drupal?	Multiple choice question	Edit
+ Drupal can be used to create your website today.	True/false question	Edit

Why Drupal? - Sales with Commerce

Drupal Commerce module suite and its many add ons.

Shopping cart

Course	Use CEU Credits?	CEU Credit Price	Price	Buy with CEU Credits?	Remove	Total
Introduction to CiviCRM	Yes	1	Subtotal	<input checked="" type="checkbox"/>	Remove	\$0.00
			CEU Credits			-\$10.00
			Unit price			\$0.00

Total: \$0.00

[Update cart](#)

[Checkout](#)

Why Drupal? - Administration

- Familiar and powerful administration of content
- Settings for its features

Enabled LMS Entities for certificate generation

- Courses
- Course Modules
- Content Wrappers
- Vimeo Wrappers
- Packages
- Quiz Wrappers
- Survey Wrappers

Select the LMS Entities that are enabled for certificate generation

LMS Event type for certificate generation *

Passed

Select what event type should trigger the certificate generation. Note that you must enable Completed record event recording above if you choose "Completed"

Why Drupal? - Administration

The screenshot shows the Drupal administration interface for managing course display. The breadcrumb trail is: Home » Administration » LMS » Courses » Manage display. The page title is "Courses" with a dropdown arrow. There are four tabs: OVERVIEW, COURSE SETTINGS, MANAGE FIELDS, and MANAGE DISPLAY (which is active). Below the tabs are three buttons: Default, Full content, and Teaser. A link "Show row weights" is also present.

FIELD	REGION	LABEL	FORMAT	
Header				
<i>No fields are displayed in this region</i>				
Left				
+ Abstract	Left	<Hidden>	Default	
+ Course Modules	Left	Above	Rendered restricted access entity view mode	# <input type="text"/> Rendered as Embed Display links Restricted access as embed_restricted
Right				
+ Default Product	Right	<Hidden>	Add to Cart form	Quantity widget: Disabled Default quantity: 1 Combine like items: Enabled Showing attributes on single product forms.
+ Type	Right	Inline	Label	No link
+ Pre-requisite Courses	Right	Above	Label	# <input type="text"/> No link
+ BOC Expiration date	Right	Inline	Date and time	Display dates using the BOC Expiration Date (March 28, 2016) format Show all value(s) starting with earliest, ending with latest
+ CEUs	Right	Inline	Default	1,234.12 Display with prefix and suffix.
+ Pass Status	Right	Inline	Default	
+ Number of items passed	Right	Inline	Default	
+ Completion Status	Right	Inline	Default	
+ Number of items completed	Right	Inline	Default	

Why Drupal? CiviCRM

Constituent Relationship Management
CiviCRM.org For D7/D8

Contact Management
Memberships
Event Registrations

Relationship Management

- Employee of
- Student of

Mass Emailing System

- Dynamic Groups
- Track click-throughs and bounces
- WYSIWYG Email Creation

Mark Hanna

Actions ▾ Edit Delete Contact

Summary	Contributions 0	Pledges 0	Memberships 0	Activities 0	Events 0	Relationships 1	Groups 0
Notes 0	Tags 1	Change Log 30					
Employer	Skvare	Tags	LMS User				
Job Title	Senior Developer	Contact Type	Individual				
Nickname	jackrabbithanna	CiviCRM ID / User ID	3 / 29				
Source	admin	External ID					
Home Email	mark@skvare.com	Home Phone	555-555-5555				
Work Website	http://skvare.com/learning	IM					
		Add address					
Privacy	DO NOT SMS	Gender	Male				
Preferred Method(s)	Email	Date of Birth					
Preferred Language	English (United States)	Age					
Email Format	Both						
Communication Style	Formal						
Email Greeting	Dear Mark						
Postal Greeting	Dear Mark						
Addressee	Mark Hanna						
▸ CEU Credits							

Why Drupal? - Tracking

In an LMS, tracking requires that the website:

1. Capture user interactions and communicate them to long-term storage
2. React to or interpret interactions

Does an interaction cause the user to pass a course?

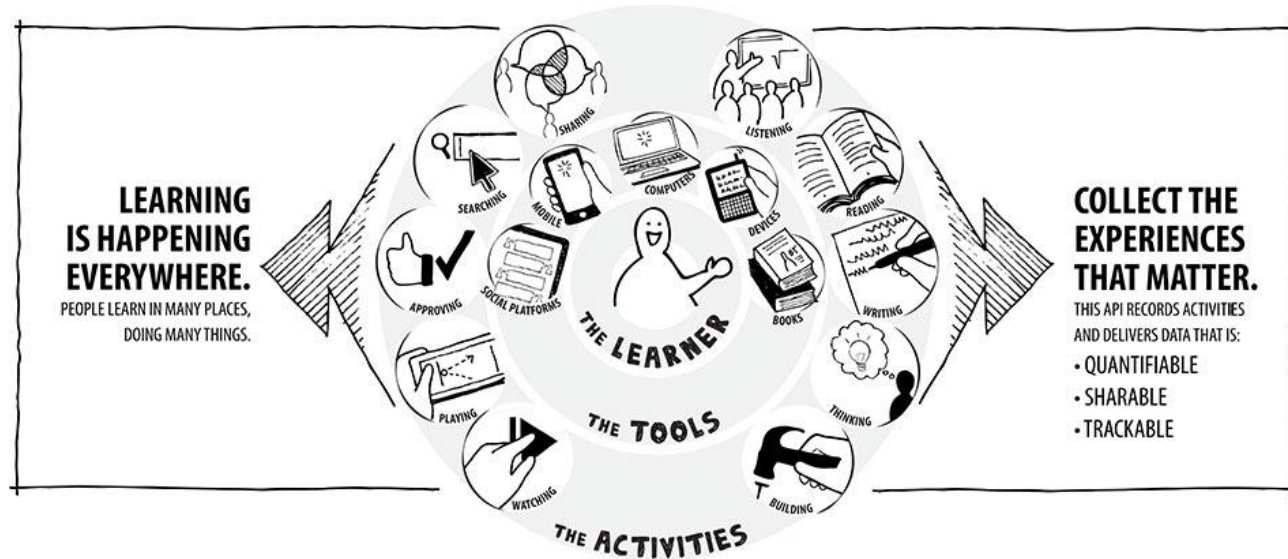
Are prerequisites met to gain access to the next learning module in a program?

Should a certificate be issued?

Tracking - Tin Can (eXperience) API

Tin Can API is a brand new specification for learning technology that makes it possible to collect data about the wide range of experiences a person has (online and offline).

Version 1.0 of the specification was released in 2013. It's an open, industry-recognized standard.



Tin Can API Statements - Document what happened

A Tin Can Statement is the root concept of the storage of a learning interaction. Abstracts the sentence “Somebody did Something with some Results within some Context at some time”

[Agent] [Verb] [Object] [Results] [Context] [when]

Each of the following examples can be documented using the Tin Can API:

“Mark viewed the description for Course Two”

“mark@skvare.com completed Quiz 1 with a score of 87 in Course Two on Oct 25, 2015”

“This group of people experienced Mark giving a Tin Can and Drupal presentation today”

“Mark taught Steve how to fish, and he caught three this week.”

“Billy attempted to ride a bike but fell down on the racetrack yesterday”

Learning Management System

Suite of contributed modules & modules developed by Skvare

- Integrates Tin Can API tracking and storage with Drupal
- H5P and Drupal Content
- Hierarchical Entity Structure
- Programs -> Courses -> Lessons -> Content Wrappers -> Content
- Content Wrappers integrate Drupal or external content items into the LMS
- Drupal Commerce and CiviCRM integration out of box
- Gradebook and Certificates
- Integration with Drupal native Tin Can Learning Record Store

<https://skvare.com/learning/skvare-learning-management-system-features>

Introduction to Drupal

View Status Roster Outline Progress Edit Delete



A basic introduction of Drupal is presented with various types of content and functionality. Includes reading material, a video, a Tin Can Package, a Quiz, and a follow up Survey.

Lessons:

Basic Information

This lesson introduces Drupal and the most basic information about it.

Pass Status: Passed
Required to Pass: Yes
Required to Proceed: Yes

Drupal Content:

READING MATERIAL

Pass Status: Passed

Videos:

WHAT IS DRUPAL?

Pass Status: Passed

Packages:

SAMPLE ARTICULATE PACKAGE

Progress Status: Passed

Assessments:

INTRODUCTION TO DRUPAL QUIZ

Pass Status: Passed

Evaluations:

FOLLOW UP SURVEYS

Price: \$10.00

CEU Credits: 1

Enrolled

Type: Individual Course

CEUs: 3.00

Pass Status: Passed

Number of items passed:

1 of 1 required items passed.

Completion Status: Completed

Number of items completed: 1 of 1 items complete.

Level: Advanced

Reporting Category: A

Pass Records:

Passed Date: Monday, March 7th 2016

Credits Earned: 3

Certificate Type:

Certificate of Completion

Certificate:

 [Introduction to Drupal](#)

Passed Date: Monday, March 7th 2016

Credits Earned: 3

Speaker(s):

[Mark Hanna, DevMd](#)

[Other Courses with Mark Hanna](#)

Course Administration

Course Module Admin Panel

Drupal Content Wrappers

[Add Drupal Content Wrapper](#)

Title	Publish Status	Edit	Unlink	Delete
Reading Material	Published	Edit	Unlink	Delete

Vimeo Video Wrappers

[Add Vimeo Wrapper](#)

Title	Publish Status	Edit	Unlink	Delete
What is Drupal?	Published	Edit	Unlink	Delete

Tin Can Packages

[Add Tin Can Package](#)

Title	Publish Status	Edit	Unlink	Delete
Sample Articulate Package	Published	Edit	Unlink	Delete

Quiz Wrappers

[Add Quiz Wrapper](#)

Title	Publish Status	Edit	Unlink	Delete
Introduction to Drupal Quiz	Published	Edit	Unlink	Delete

Survey Wrappers

[Add Survey Wrapper](#)

Title	Publish Status	Edit	Unlink	Delete
Follow up Surveys	Published	Edit	Unlink	Delete

Course Module Configuration

[Add Course Module Configuration](#)

Course Configuration

Course Module Field Label Text

Expire Course on Quiz Failure?

Failed Attempt Count for Expiration

Issue Certificate

Certificate Template

URL redirects

Tin Can Course properties

Tin Can Course properties.


- Inactive
- Published
- Promoted to front page
- Sticky
- Required to Pass
- Required to Proceed

Path Alias Component *

Activity ID

Save

Transcript and Certificates

+Add Certificate Record						
Record Type	Type	Passed Date	Link	Certificate	Certificate Type	Credits Earned
Passed	Assessment	Mon, 03/07/2016 - 15:49	Introduction to Drupal Quiz			
Passed	Evaluation	Mon, 03/07/2016 - 11:58	Follow up Surveys			
Passed	Lesson	Mon, 03/07/2016 - 11:58	Basic Information			
Completed	Lesson	Mon, 03/07/2016 - 11:58	Basic Information			
Passed	Course	Mon, 03/07/2016 - 11:58	Introduction to Drupal	 Introduction to Drupal	Certificate of Completion	3
Completed	Course	Mon, 03/07/2016 - 11:58	Introduction to Drupal			3
Passed	Module	Mon, 03/07/2016 - 11:56	Sample Articulate Package			
Passed	Videos	Mon, 03/07/2016 - 11:54	What is Drupal?			
Passed	Course Content, Files, or Links	Mon, 03/07/2016 - 11:51	Reading Material			

LMS - Content Wrappers

Courses can be independent of programs, or part of programs.

Each course can have multiple lessons.

Each lesson can contain multiple content wrappers.

Content wrappers can contain multiple content items and media types.

Content wrappers provides administration for LMS related settings and functionality for different types of media and makes them available for use in Course Lessons.

- Drupal Content sets including pages, external links, and files
- Vimeo/YouTube videos
- Tin Can API compliant learning packages, such as those produced by Articulate Studio and Storyline
- Quiz sets (Drupal Quiz 5.x)
- Survey sets (Drupal Webforms)
- H5P Interactive Video Content

Depending on the needs of the learning system, wrappers can be removed or additional ones created.

Content Wrappers - Drupal Content

Tracks:

- View Drupal nodes, other entities
- External Link Clicks
- Files downloaded

Reading Material

View Edit Link Unlink Status Delete

Reading material providing resources and information about the basics of Drupal.

Drupal Content Wrappers integrate and track Drupal nodes, links, and files into LMS Course

Any entity could be referenced and tracked

Tracked Course Content:

[A Drupal Node](#)

Tracked Links:

[Drupal.org](#)

Tracked Files:

 [temporarypdf.pdf](#)

Lessons: [Basic Information](#)

Required to Pass: Yes

Required to Proceed: Yes

Pass Status: Passed

Number of items passed:

3 of 3 required items passed.

Completion Status: Completed

Number of items completed:

3 of 3 items complete.

Content Wrappers - Vimeo Wrapper

Vimeo Videos via
Drupal File Field
and Media module

Tracks user video
watch time

Pass/Completion
Status

What is Drupal?

View Edit Link Unlink Status Delete

This video talks about what Drupal is.



Lessons: Basic Information

Pass Status: Passed

Number of items passed:

1 of 1 required items passed.

Completion Status: Completed

Number of items completed.: 1 of 1 items complete.

Role of LRS - The Learning Record Store

The “database of record”

LMS independent storage of learning experiences

Decoupling of interaction communication, and learning documentation data modeling concepts from content, content media type, and presentation.

Standardized Documentation of any transmission and/or comprehension of any information

Standardized communication and protocols to LMS, other record stores, or reporting tools.

Drupal Tin Can Learning Record Store

No other open source LMS has its own native LRS

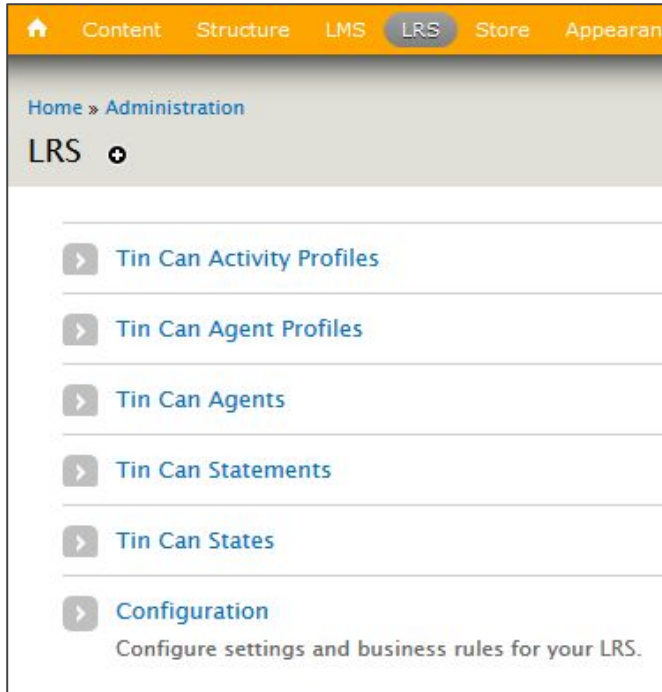
Store LMS user experience and interaction data in Drupal.

Tin Can Statements, Agents, Activities, Agent and Activity Profiles are Drupal entity types

LMS can react to user learning interactions with Rules

Native reporting with Views

Store data from multiple learning management systems.



Drupal Tin Can LRS

Integrates with the Services Module

Setup Multiple Endpoints

Multiple LMS support via Drupal User Permissions

PERMISSION	LRS AUTHORITY USER
Access TinCan APIs Allow users to send or receive Statements or Documents via REST API <i>Warning: Give to trusted roles only; this permission has security implications.</i>	<input checked="" type="checkbox"/>
Void TinCan Statements Allow users to void Statements via REST API <i>Warning: Give to trusted roles only; this permission has security implications.</i>	<input checked="" type="checkbox"/>
Access Statement GET API Allow users to GET Statements via REST API <i>Warning: Give to trusted roles only; this permission has security implications.</i>	<input checked="" type="checkbox"/>
Access Statement PUT API Allow users issue PUT Statements via REST API <i>Warning: Give to trusted roles only; this permission has security implications.</i>	<input checked="" type="checkbox"/>
Access Statement POST API Allow users issue POST Statements via REST API <i>Warning: Give to trusted roles only; this permission has security implications.</i>	<input checked="" type="checkbox"/>

Home

Edit endpoint tincan_xapi

Machine-readable name of the endpoint *

The endpoint name can only consist of lowercase letters, underscores, and numbers.

Server *

Select a the server that should be used to handle requests to this endpoint.

Path to endpoint *

Debug mode enabled
Useful for developers. Do not enable on production environments

Authentication

Session authentication

HTTP Tincan basic authentication

Choose which authentication schemes that should be used with your endpoint. If no a

Save Delete

Resources

- H5P - Interactive Video -- <http://h5p.org>
- <https://www.drupal.org/project/h5p>
- Quiz -- <http://www.drupal.org/project/quiz>
- Commerce -- <http://www.drupal.org/project/commerce>
- About Tin Can (eXperience API) -- <http://tincanapi.com/>
- Tin Can API Drupal module -- <https://www.drupal.org/project/tincanapi>
- Tin Can LRS - <https://www.drupal.org/sandbox/markusa/2544754>
- CiviCRM -- <http://civicrm.org>

Skvare: The Learning Guys

<https://skvare.com/learning/>

Mark Hanna - Senior Developer

mark@skvare.com

Peter Petrik - CEO & Founder

peter@skvare.com

<https://www.meetup.com/DFW-CiviCRM/>

CiviCon Ticket Giveaway

To enter into the drawing for a ticket, register at <https://skvare.com/freeticket> by April 15.



Skvare is Gold Sponsor of CiviCon 2016 in Fort Collins, CO and we are giving away one complimentary registration to the conference on June 2--3, 2016 (\$229 value).