Blockstore Powered Content Libraries & Taxonomies

BD-14 edX Discovery Details Document -- Public Document, Open for Comments

[Goal](#)

[Initiative 1: New Blockstore Content Library Authoring Experience](#)

Goal / Overview Notes

- An updated Library Authoring experience, with improved tools for both Randomized Content Blocks and the ability to directly reference library content blocks in courses specifically. This new experience would be powered by the new blockstore engine and allow for improved randomized content blocks and direct library block referencing on current non-blockstore backed edx.org courses.
- A new taxonomy service, authoring experience, and content alignment tools to support content tagging and alignment across both courses and content libraries authoring in Studio.
- This discovery document is organized into pages / views / scenarios necessary to accomplish the two goals listed above. No specific milestone or phasing is suggested here, mostly this is focused on the super set of features / functions. As part of this discovery, some loose sense of potential phases or milestones would be helpful.
- Prior work on this front includes work done by Braden / OpenCraft in [Ramshackle](#). Long ago a document around [content library tagging and alignment](#) was drafted and some of these items may still be relevant.
- edX / OpenCraft met in person at edX 6-12 months back to review an early version of Ramshackle and the notes / pictures from this meeting have not yet made their way into this document. For this reason, some concepts in Ramshackle and others previously discussed are not yet represented in this discovery document.

Initiative 1: New Blockstore Content Library Authoring Experience
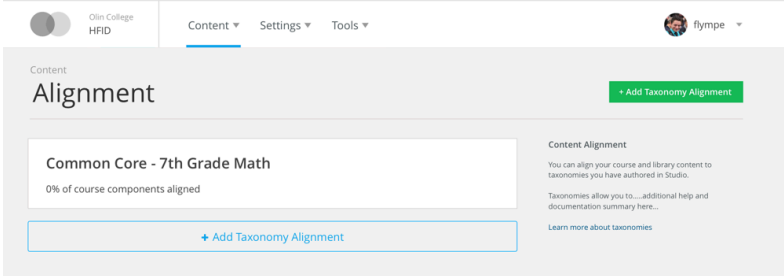
(JIRA Epic Linked Here)

	Category	Scenario	Details
A	**Studio Course**	Educators can get to a new library	The existing Studio navigation that lets educators switch between Courses, Archived Courses, and Libraries will switch

	Listing Page	authoring experience from / in Studio using an updated header	to being in the header area. edX Studio ⌄ Courses Libraries Programs Taxonomies When clicking Libraries, a new library authoring MFE will be shown as a part of "edX Studio." At the platform level, the library authoring experience can be specified / configured and the default will be the Open edX Library Authoring MFE created as part of this project. Once educators click the Library icon in the header they are taken to page B below.
B	**Library Listing Page**	Educators can view a listing of all content libraries available to them with a way to create new libraries.	**Library Listing** A react based listing view of all content libraries (blockstore and modulestore ones), with an easy way to search within content libraries, filter down to a single organization, and view basic metadata about that library. This metadata will include: ● Library Title (string) ● Library Org (dropdown of organizations) ● Library ID (string) ● Library Type (Video, Problem, Complex, Legacy) ● Library Description (open text box) ● Library Last Published Date ● Library Components Blocks (total count) Mockup for this coming soon, but for now this is emulating the insights.edx.org listing view (search / filtering) with Studio's Course Listing row rendering for each library. **Library Creation** Additional details in C.
C	**Library Creation Workflow**	Educators can create libraries from scratch or through a library import process	**Create Library Button / Action** A create library button is also planned to be linked from this view, as in the current Studio Course Listing home page. Tentatively, the fields used to define a library are as follows: ● Library Title (string) ● Library Organization (dropdown of valid Django

			organizations) ● Library ID (string) ● Library Type: Video, Problem, Complex, Legacy. **Empty Library** The default option as is the case today with courses involves setting the library fields and creating a new library. **Library Import** A second tab on the "Create New Library"
D	**Library Authoring Page (General)**	Educators can see a list of all blocks in the library, with tools to filter down and show only a part of the library, and also tools to add new blocks / components.	This experience forms the bulk of the library authoring experience, blending a listing view with an authoring view, akin to the Studio Course Outline merging with the Unit Outline view. **Page Title / Context Setting** This part of the page echoes the current experience in Studio, with the Library title, label, hide previews tool and add library element button. **Library Listing Search / Filter Tools** Additions to the "Page Title / Context Setting" area include a way to search within the library as well as a filtering tool to let you view library blocks by type: ● Video, ● Problem, ● HTML, ● Other Component, ● Unit Page, ● Subsection / Sequence, ● Section. This filtering type won't be a part of the initial potential milestones to support "Video Libraries" or "Problem Libraries" but will be necessary for support for "Complex libraries" in the future. The type filtering controls would also use direct urls with active filtering, allowing us to link to and view just components of a given type within a library. For now, the plan is also to echo current pagination controls and labeling messages up top: "Showing 1-50 out of 250 total, sorted by Date added ascending

			Libraries will be capped at 1000 components as a limit, with an eventual goal of supporting 10,000 as a hard limit to support larger libraries. **Library New Object Addition** An updated version of the Studio Unit Page "Add Component" area would be added here. The general library type is the most complex version of this tool, as you would be able to add Sections / Subsections / Unit Pages potentially in this view. (Mockup to come in the future, for now focused on Problem / Video library authoring details)
E	**Library Authoring Page (Problem Libraries)**	A simplified version of the general library authoring case described in C.	
F	**Library Authoring Page (Video Libraries)**	A simplified version of the general library authoring case described in C.	
G	**Library User Access Configuration**	A replacement for the current experience, with no major changes to the educator experience.	No requirement changes, can match current experience.
H	**Library Import / Export**	A parity replacement for the current experience, with no major changes to the educator experience.	No requirement changes, parity is goal here.
I	**Library Content Alignment**	A new Content menu item is added to the header letting people switch from the main authoring view "Authoring" and "Alignment"	This new area would let authors add specific system recognized taxonomies from the taxonomy service (once it exists) that the author would like to align to this library. Example of this page (concept sketch) from the course context is shown below from 2016 ALWG Product Direction Document.

			Listing of Linked Taxonomies A list of linked taxonomies, with the percentage of library components aligned to the taxonomy also listed. **Link New Taxonomy Action** A way to specify a new taxonomy that the current use has user / viewer access to currently.
J	**Library Licensing**	A way for educators to specify the default licensing for all the content blocks in their library.	

Initiative 2: New Taxonomy Authoring Experience

K	**Taxonomy App Navigation**	A new tab across the top of Studio for "Taxonomies" would let authors get to this new authoring application.	The header in Studio, recently updated and now linking to the new library authoring MFE, would have a new "Taxonomy" option for educators.
L	**Taxonomy Listing Page**	Educators can view a listing of all taxonomies available to them with a way to create new taxonomies.	**Taxonomy Listing** A react based listing view of all taxonomies, with an easy way to search within taxonomies, filter down to a single organization, and view basic metadata about that taxonomy. This metadata will include: • Taxonomy Title • Taxonomy Org • Taxonomy ID • Taxonomy Last Published Date • Taxonomy Objects (total count)

			Mockup for this coming soon, but for now this is emulating the insights.edx.org listing view (search / filtering) with Studio's Course Listing row rendering for each library. **Taxonomy Creation** A create taxonomy button is also planned to be linked from this view, as in the current Studio Course Listing home page. Tentatively, the fields used to define a taxonomy are as follows: ● Taxonomy Title (string) ● Taxonomy Organization (dropdown of valid Django organizations) ● Taxonomy ID (string) ● Taxonomy Description (open text box) ● Taxonomy Type: Flat, Hierarchical, Directed Graph. ○ Not sure if this should be included or if we should just make the taxonomy format flexible enough to support all eventually but focus on just flat / hierarchical to start?

M	**Taxonomy Storage Format / Standard**	The Platform represents taxonomies in a standard format, to be used as a way to import or export these into our out of the taxonomy tool.	Time set aside to explore industry best practices and standards for how we might store / represent these taxonomies.
			
			Many standards have specificity on the data / relationship of these taxonomies, but the focus of this first version is some sort of (XML?) representation for taxonomy objects to support Flat & Hierarchical taxonomies:
			
			Example Flat Taxonomy:
			- Easy
			- Medium
			- Hard
			
			Example Hierarchical Taxonomy
			
			- Fruit
			  - Banana
			  - Apple
			- Vegetable
			  - Lettuce
			  - Asparagus
			- Annoying
			   - Tomato
			
			For Reference,

N	**Taxonomy Authoring Page (General)**	Educators	
O			
p			

Initiative 3: Taxonomy Alignment in Content Libraries

More details coming soon for this!