

Cultural Properties Browser: Design and Implementation

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Task

- “Design and implement a web application that uses a backend language and runs on the **LAMP stack** that allows end users to browse a collection of approximately 20,000 images representing approximately 5,000 cultural properties from nearly 500 sites within Oregon.”
- “Provide a link to
 - a sandbox where your application is running
 - as well as a link to your profile that includes the GitHub repository with the code used for the implementation.”

LAMP and Other Technologies

- Linux Operating System
 - (Ubuntu LTS v14.04.3)
- Apache Web Server v2.4
- MySQL Database Server v5.5
- PHP programming language v5.5
 - Using PHP Data Objects (PDO) to access MySQL
- LightVC
 - “lightweight model-view-controller (MVC) framework without the model” written in PHP
- Bootstrap
 - Front end “responsive” framework of HTML/CSS/JS templates
- Dynamic Dummy Image Generator
 - PHP program to create images containing text

GitHub Implementation


 **petersm3 / browser**

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Image and cultural properties browser


[67 commits](#) [1 branch](#) [0 releases](#) [1 contributor](#)

[Branch: master](#) **browser / +**

 petersm3 Fixed wording	Latest commit a4092ce 20 days ago
classes	Fixed wording 20 days ago
config	Display of properties per accession work on main navigation 20 days ago
controllers	Attributes displayed on accession Display page 20 days ago
modules/lightvc	Initial commit of (unconfigured) http://lightvc.org/ framework 28 days ago
tools	Updated to documentation to suggest a default of 20000 accessions to ... 20 days ago
views	Fixing skipnav 20 days ago
webroot	Basic POST to GET filter written using dummy filters (1..10) per cate... 24 days ago
.gitignore	Modified .gitignore 21 days ago

[Code](#)
[Issues](#) 8
[Pull requests](#) 0
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HTTPS clone URL

<https://github.com> 

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<https://github.com/petersm3/browser>

GitHub Issue Tracking and Milestones

petersm3 / browser

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Issues Pull requests Labels Milestones

is:issue is:closed sort:created-asc New Issue

Clear current search query, filters, and sorts


8 Open ✓ 14 Closed

Author	Labels	Milestones	Assignee	Sort
Update Readme #1 opened 28 days ago by petersm3 Review Question 1				1
Check in LightVC base install #2 opened 28 days ago by petersm3 Review Question 1				1
Check in bootstrap base install #3 opened 28 days ago by petersm3 Review Question 1				1
Define MySQL Schema #4 opened 28 days ago by petersm3 Review Question 1				4
Implement mockup of faceted search/navigation #5 opened 27 days ago by petersm3 Review Question 1				1

<https://github.com/petersm3/browser/issues>

Reference – buildingoregon.org

- “Building Oregon is a collection of approximately 20,000 images representing approximately 5,000 cultural properties from nearly 500 sites.”
- <http://library.oregonstate.edu/building-oregon>

 BUILDING OREGON

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Sort by Relevance


100 per page

1. Education Hall, Oregon State University (Corvallis, Oregon)



Street Address: 200 Southwest 15th Street

2. Education Hall, Oregon State University (Corvallis, Oregon)

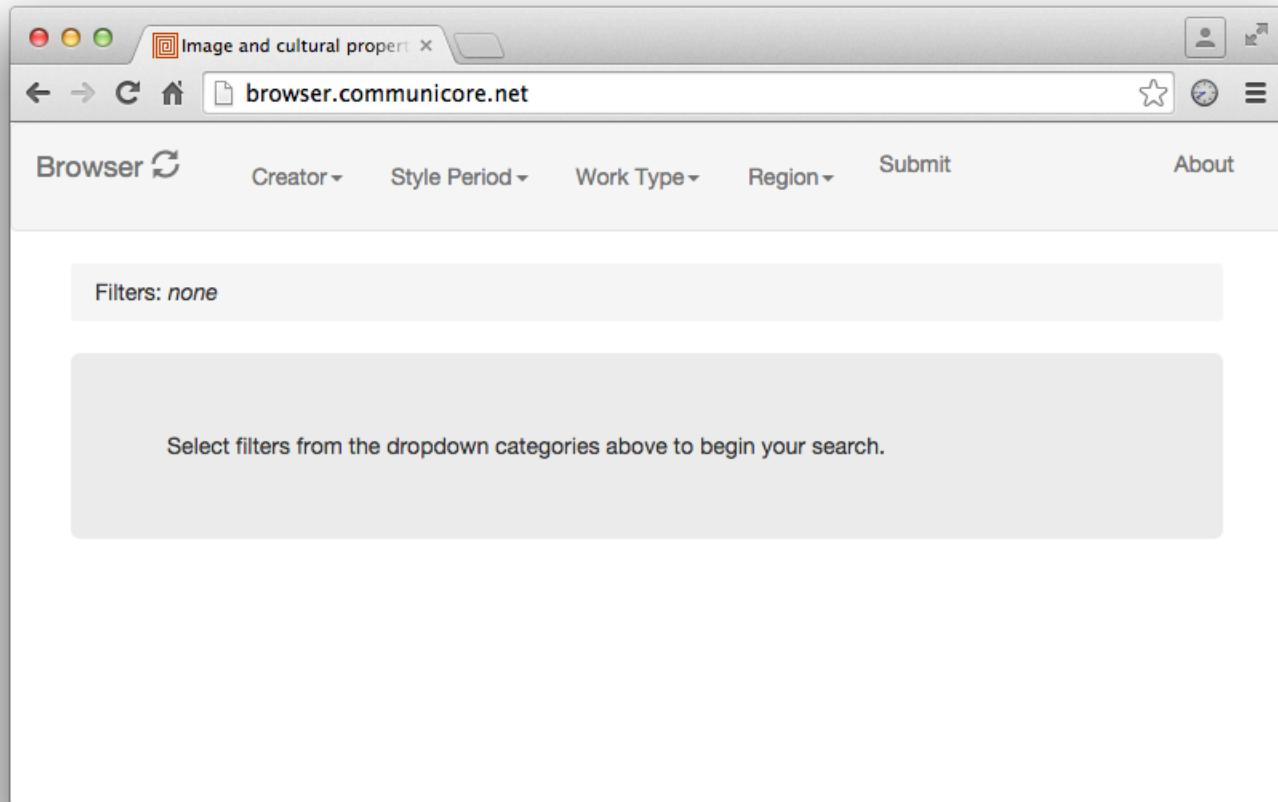


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Browser Features

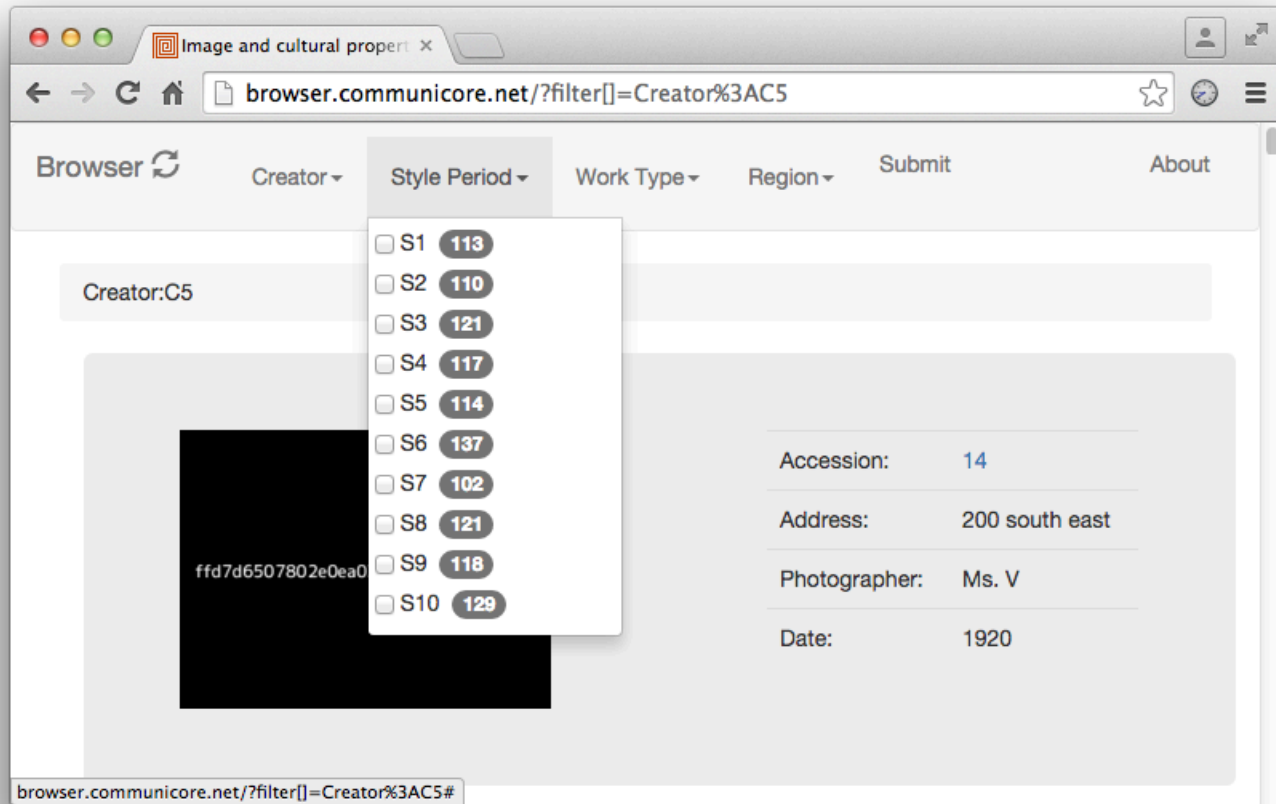
- Faceted (search/navigation/browsing)
 - “technique for accessing information organized according to a faceted classification system, allowing users to explore a collection of information by applying multiple filters”
 - https://en.wikipedia.org/wiki/Faceted_search
- Speed in querying and returning results at all stages of search.
 - Store a large set of arbitrary metadata as I am not a subject matter expert in cultural properties.
- Web Content Accessibility Guidelines (WCAG) 2.0 compliance.
- Responsive design for phone, tablet, and desktop.

Browser Interface



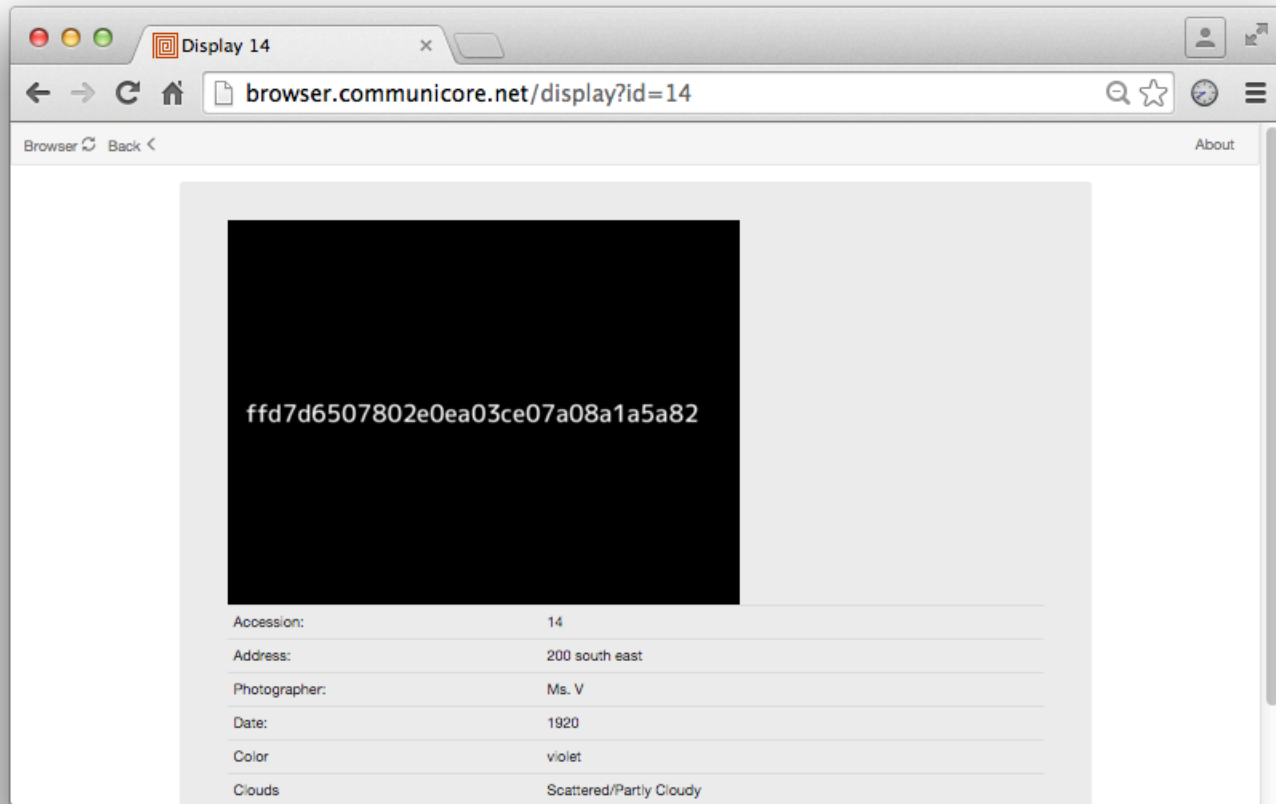
- Four pre-defined categories of filters to select from:
 - “Creator,” “Style Period,” “Work Type,” and “Region”

Browser Faceted Navigation



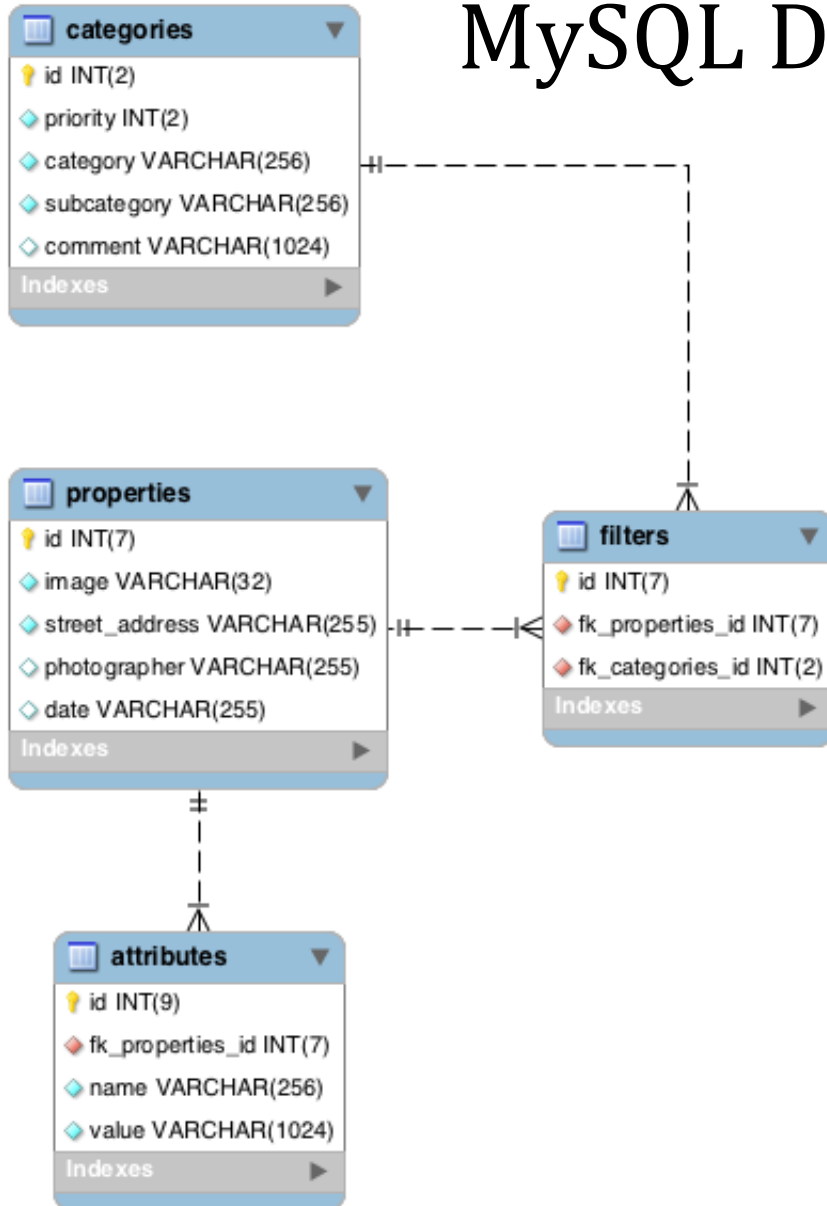
- Each category contains 10 sub-categories of (arbitrary) filters.
 - Database populated with 20,000 accessions (images).
 - Accessions randomly assigned to 4 sub-categories for each category.

Browser Image with Metadata



- Images generated with Dynamic Dummy Image Generator.
 - Easy way to generate 20,000+ unique images in real-time.
 - Served via a simulated Content Delivery Network (CDN).

MySQL Database Schema



- `categories` table helps build navigation dropdown of categories and sub-categories
- `filters` table maps categories and sub-categories to each accession (image)
- `properties` table defines each of the 20,000 randomly generated accessions (images)
- `attributes` table stores additional, arbitrary metadata for each accession

Challenges Encountered

- I am not a subject matter expert on cultural properties so I opted to build a browser for an arbitrary set of metadata.
- Faceted navigation interface took the most time to develop.
- HTML validation incomplete (issues with a <div> and [])
 - <https://github.com/petersm3/browser/issues/15>
- Time constraints; there's always more features to add:
 - Free form text search
 - Controlled vocabularies for metadata
 - Alphabetical and other types of sorting
 - User selectable pagination ranges