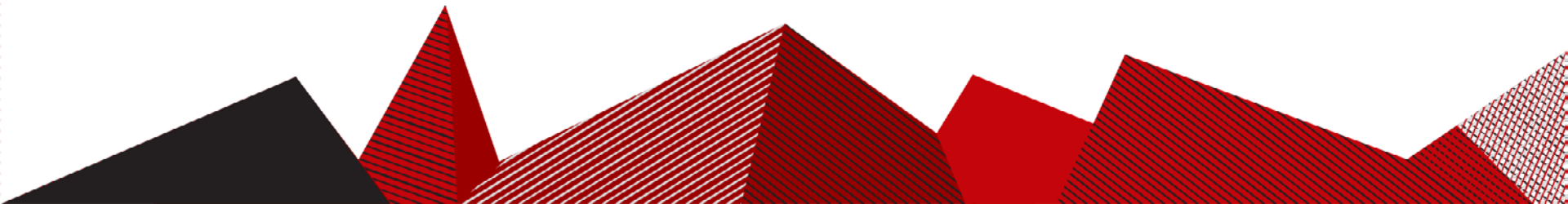
UW Natural History Museums Council Webportal

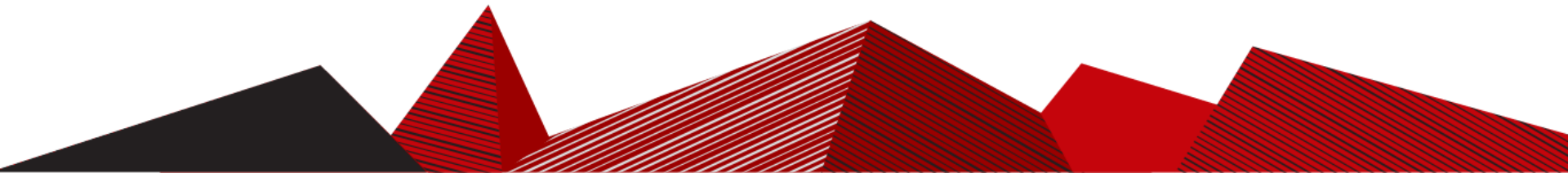
June 2018 Meeting

Agenda

1. Development Plan
2. Discovery phase questions
3. Examples, mockups and more questions

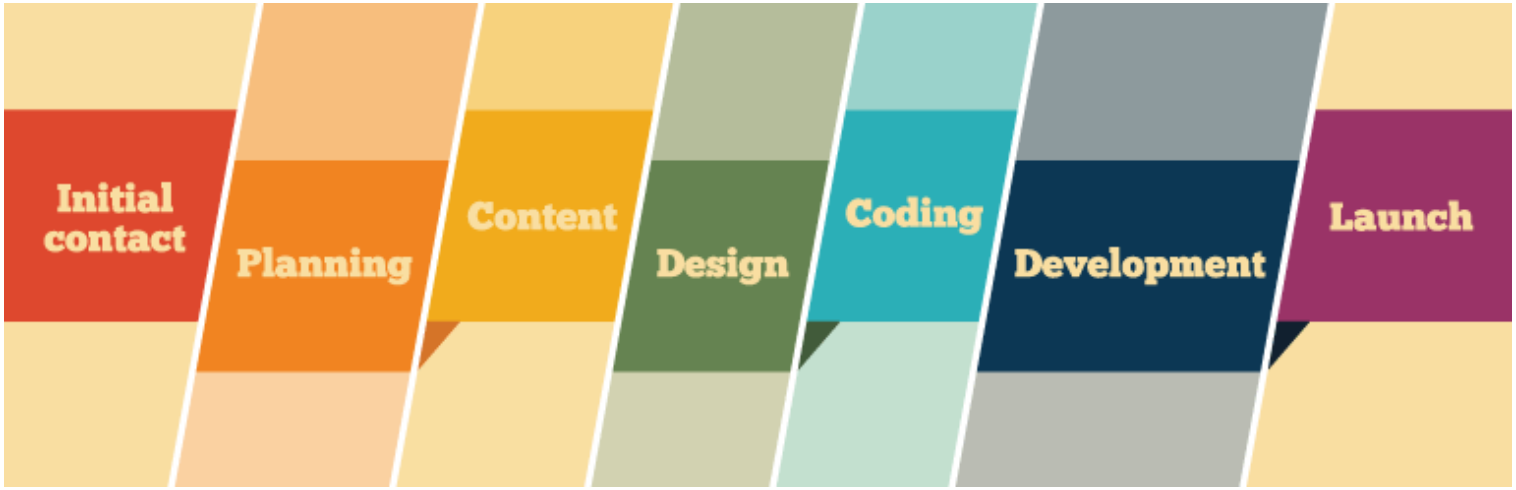


Development Plan



Development Plan

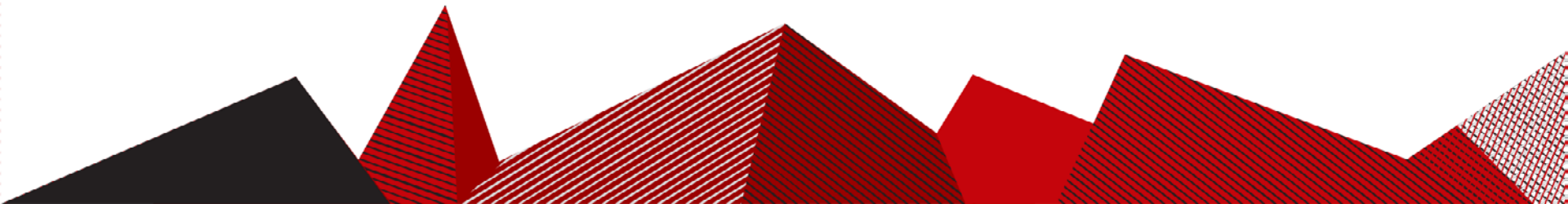
- Discovery
- Back-End
- Front-End
- Testing
- Launch



Source: https://www.friday.ie/wp-content/uploads/2015/07/WebDevelopment.png

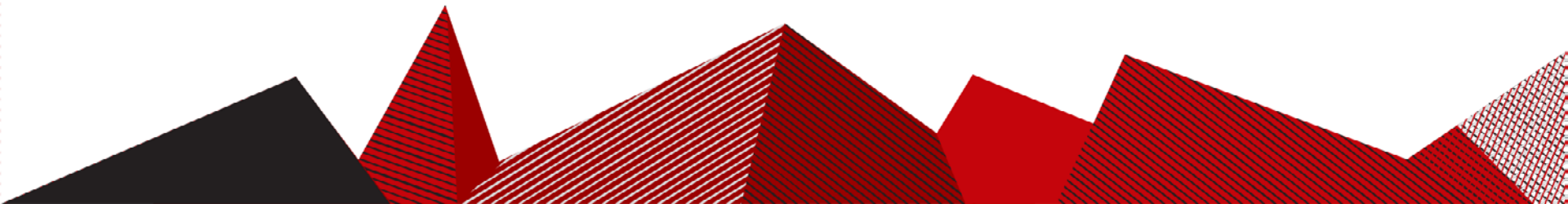
Discovery

- Site map (basic structure)
- Content definition
- Technology Stack
  - Symbiota, Apache Server running PHP, front-end HTML with CSS + JavaScript + JSON + APIs from Google MAPS, possibly APIs from iDigBio and GBIF
  - Databases
    - Specify (Herbarium, Entomology, Zoology)
    - Symbiota (Herbarium)
    - Past Perfect (Geology) -> EMu
    - FileMaker Pro (Anthropology)



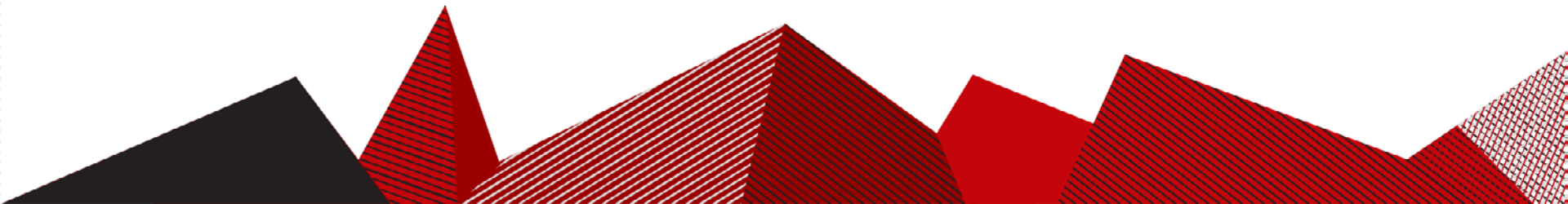
Back-End

- ✓ Symbiota installation
- ✓ Server + Database installation
- ✓ Collections
- ➡ Taxonomic thesauri
- ➡ Occurrences
- Image servers
- ➡ Feature coding
- Database updates automation



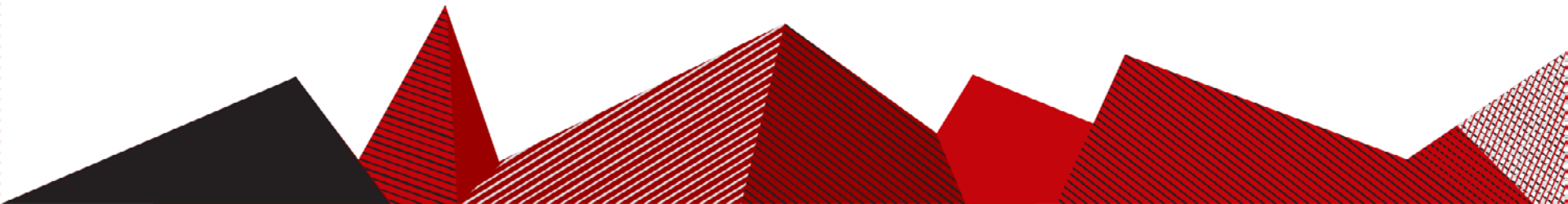
Front-End

- Layout/Wireframes
- Responsive design
- Color palette/branding
- Mock-ups



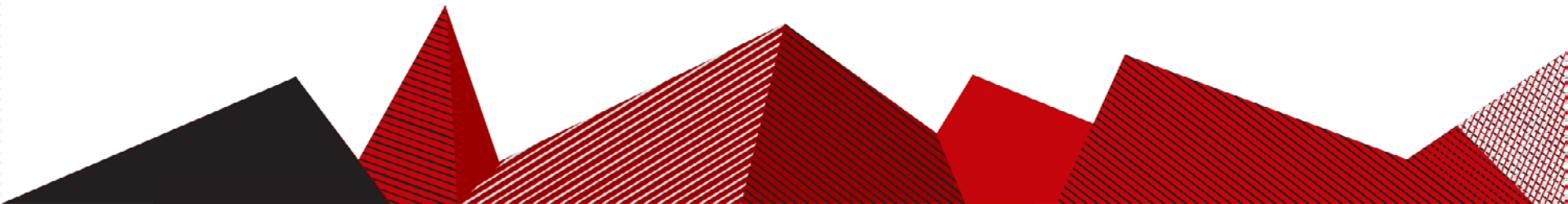
Testing

- Database performance
- Different user inputs
- User Experience (UX)
- Accessibility
- Cross-browser compatibility
- Responsiveness
- Security
- Server performance



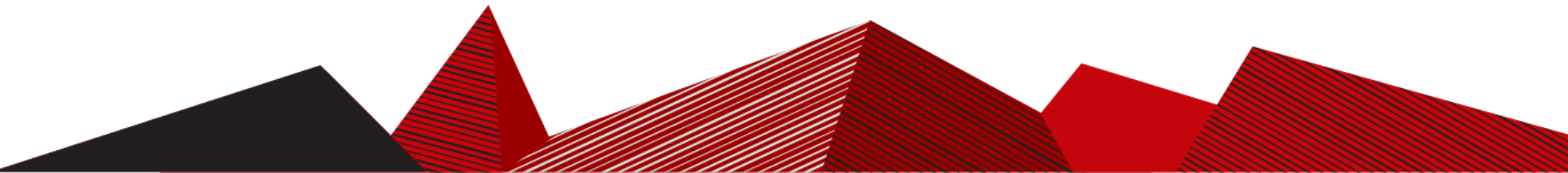
Launch

- Domain
- Backup automation
- Documentation
- Updates



Discovery

Now we start asking questions!



Data interoperability

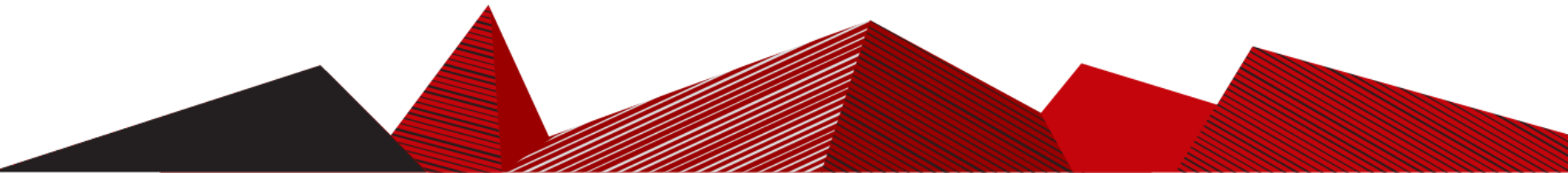
- Symbiota requires a pre-established taxonomic thesaurus and scientific name
  - Workaround for non-biological collections: create a classification system mimicking biological classification

Archeology

Geology

- Chipped Stone
- Groundstone
- Pecked Stone
- Unmodified Rock
- Pottery
- Shell
- Bone
- Botanical
- Glass
- Metal
- Ceramic
- Plastic

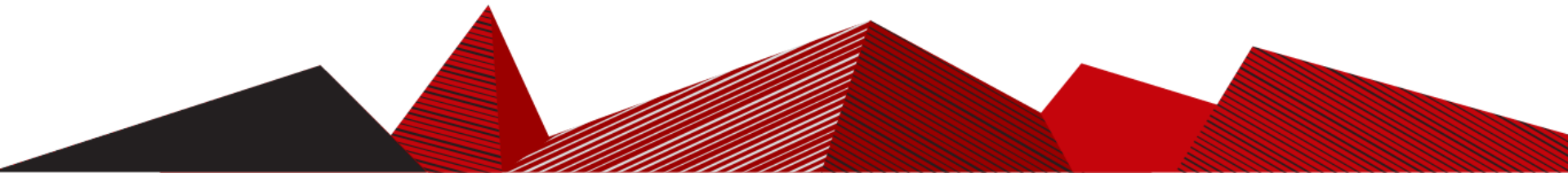
Up to 4 hierarchic levels



Occurrences

Fields that can be imported into a Symbiota data portal

- Catalog numbers
- Scientific names/taxonomic authorities
- Geographic units
- Geolocation
- Collection date
- Habitat/Substrate
- Other: life stage, preparations, remarks



Symbiota main features

- Consortium of Midwest Herbaria

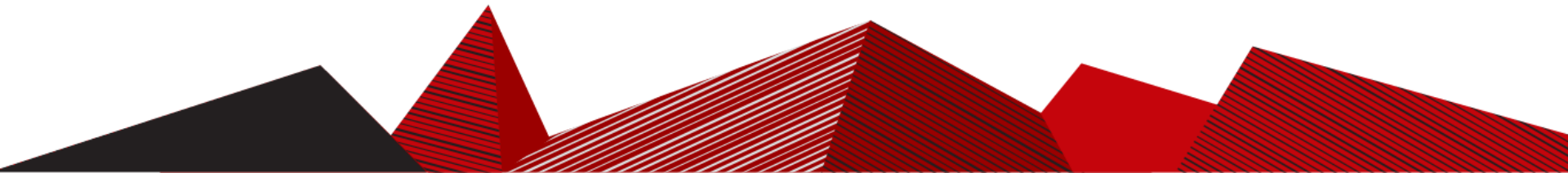
http://midwestherbaria.org/portal/

- Minnesota Biodiversity Atlas

http://bellatlas.umn.edu/

- Example installation

http://fibonacci.math.wisc.edu/~rocha/portal/

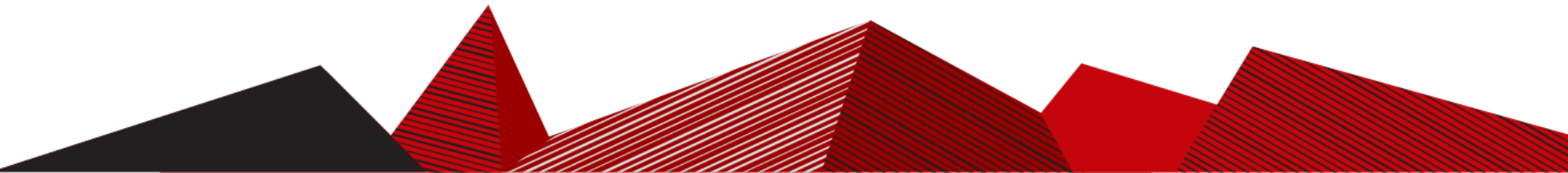


Symbiota main features

- Symbiota is very complex and serves a lot of purposes
- Collection management system
- Simplify it, remove a lot of their internal admin pages
- Reorganize Site Map

Main features available:

- Search Taxa / Specimens / Collector / Locality
- Search Map
- Include or exclude by collection
- Browse Images
- Custom “taxon” profiles
- Inventories



UW Natural History Museums

Site Map

Collections

- Search Engine - search collections
- Collections - list of collection participating in project
- Collection Statistics
- Exsiccati Index
- Data Publishing
  - RSS Feed for Natural History Collections and Observation Projects
  - Darwin Core Archives (DwC-A) - published datasets of selected collections
  - DwC-A RSS Feed
- Rare Species - list of taxa where locality information is hidden due to rare/threatened/endangered status

Image Library

- Image Library
- Interactive Search Tool
- Image Contributors
- Usage Policy and Copyright Information

Taxonomy

- Taxonomic Tree Viewer
- Taxonomy Explorer

Dynamic Species Lists

- Checklist - dynamically build a checklist using georeferenced specimen records
- Dynamic Key - dynamically build a key using georeferenced specimen records

Data Management Tools

Administrative Functions (Super Admins only)

- User Permissions
- Taxonomic Interest User Permissions
- Global Taxonomic Name Cleaner
- Create a New Collection or Observation Profile
- Thumbnail Builder Tool
- Collection GUID Mapper
- SALIX WordStat Manager

Identification Keys

- You are authorized to access the Characters and Character States Editor
- You are authorized to edit Identification Keys.
-

Images

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Images

See the Symbiota documentation on Image Submission for an overview of how images are managed within a Symbiota data portal. Field images without detailed locality information can be uploaded using the Taxon Species Profile page. Specimen images are loaded through the Specimen Editing page or through a batch upload process established by a portal manager. Image Observations (Image Vouchers) with detailed locality information can be uploaded using the link below. Note that you will need the necessary permission assignments to use this feature.

- Basic Field Image Submission
- Image Observation Submission Module

Biotic Inventory Projects

- Add a New Project
- There are no projects in the system

Taxon Profile Page

The following Species Profile page editing features are also available to editors via an editing link located in the upper right of each Species Profile page.

- Synonyms / Common Names
- Text Descriptions
- Edit Images
  - Edit Image Sorting Order
  - Add a new image

Taxonomy

- Edit Taxonomic Placement (use Taxonomic Tree Viewer)
- Add New Taxonomic Name
- Batch Upload a Taxonomic Data File
- Encyclopedia of Life Linkage Manager

Checklists

Tools for managing Checklists are available from each checklist display page. Editing symbols located in the upper right of the page will display editing options for that checklist. Below is a list of the checklists you are authorized to edit.

- You are not authorized to edit any of the Checklists

Collections

Tools for managing data specific to a particular collection are available through the collection's profile page. Clicking on a collection name in the list below will take you to this page for that given collection. An additional method to reach this page is by clicking on the collection name within the specimen search engine. The editing symbol located in the upper right of Collection Profile page will open the editing pane and display a list of editing options.

List of collections you have permissions to edit

Target Audience vs. Searches

Specialists (scientists, taxonomists, amateur botanists)

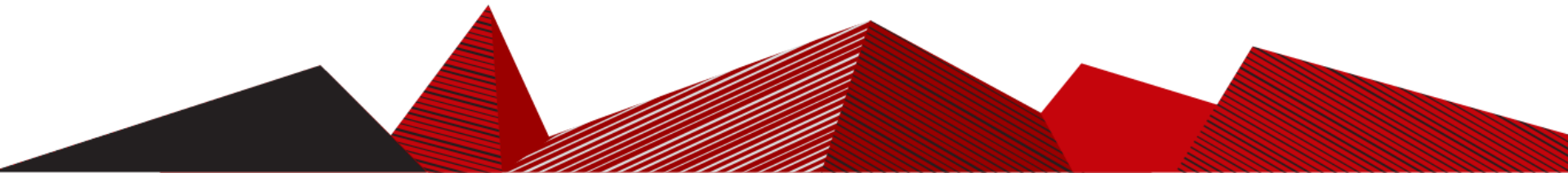
- Taxon
  - Scientific name
  - Family
  - Higher taxonomy
  - Common name
- Collector
  - Last Name
  - Number (Botany)
- Collection Date
- Locality
- Catalog number

General public

- Same taxonomic criteria?
- Locality

- Quicksearch?

Currently the Quicksearch is very strict. Include vernaculars? Broaden search range?



Search forms/Collection separation

- VertNet

http://vertnet.org/

Full text record search

- California Academy of Sciences

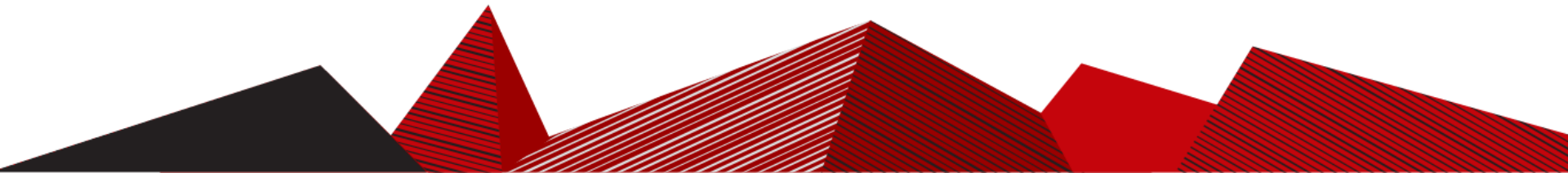
https://monarch.calacademy.org/collections/map/mapinterface.php

Different symbols for different collections in map

- Smithsonian Tropical Research Institute

http://stricollections.org/portal/collections/map/index.php

Collections organized by Taxon



Screen sizes

- Should we allow people to retrieve specimen information in their mobile devices?
- If so, are we going to limit the information displayed?
- Responsive design has to be considered

Source: https://image.freepik.com/free-vector/responsive-web-design_23-2147546970.jpg

Home Page

Modern design examples (Symbiota existing sites)

- Minnesota Biodiversity Atlas

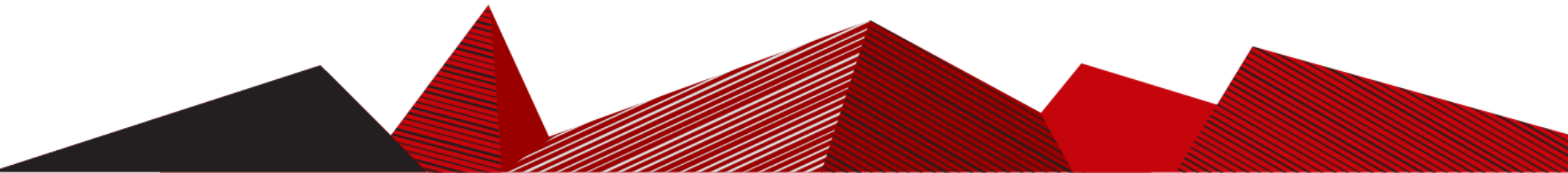
http://bellatlas.umn.edu/index.php

Minimal changes to standard layout

- California Academy of Sciences

https://monarch.calacademy.org/

Statistics, large quicksearch bar, clean



Home Page

Modern design examples (non-Symbiota)

- Friends of the UMMP Michigan Basin Specimen DB

http://michiganbasinfossils.org/

Interesting map search and image features

- Museum für Naturkunde Berlin - Sammlungen

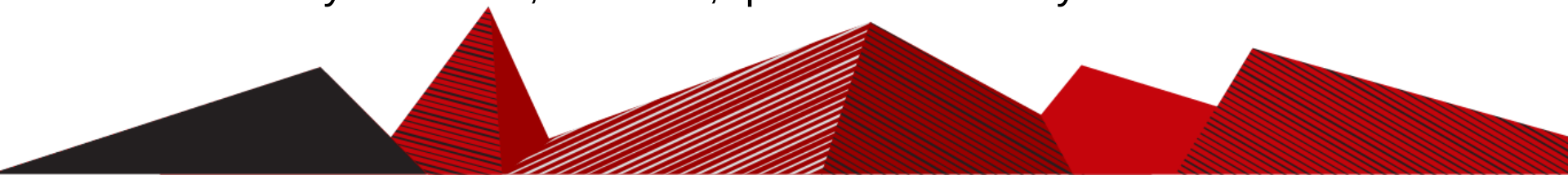
https://www.museumfuernaturkunde.berlin/de/forschung/sammlungen

Organization by “image buttons”

- Natural History Museum London

http://data.nhm.ac.uk/

Statistics by collection, datasets, quicksearch – very research oriented



Home Page - Mockup

http://fibonacci.math.wisc.edu/~rocha/mockup/index.html

Overview of main portal features

Header

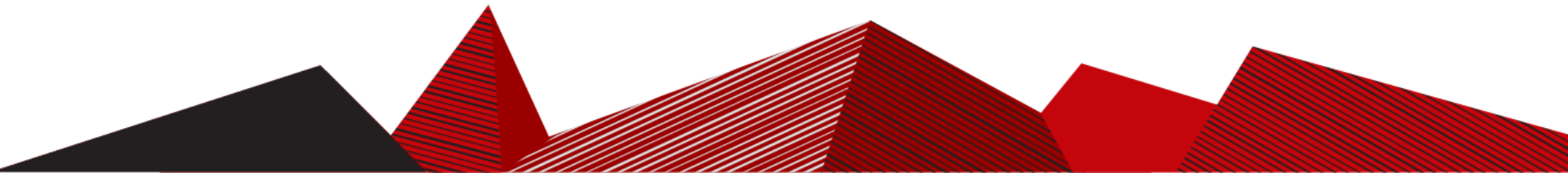
Search

Browse

Virtual Exhibitions

About

Footer



Search

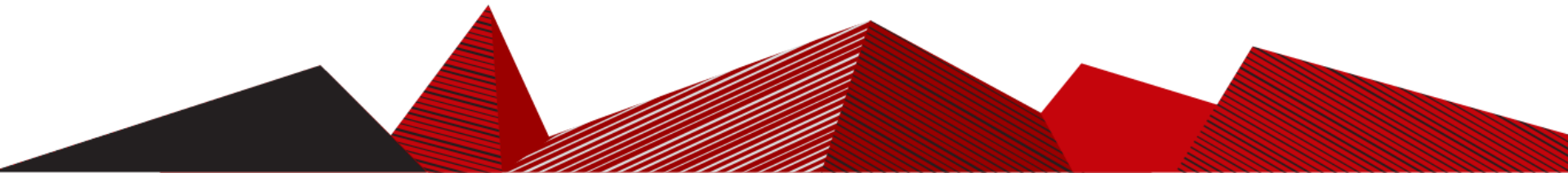
http://fibonacci.math.wisc.edu/~rocha/mockup/search.html

Symbiota search starts at collections

Collapsible tabs for advanced search parameters

Include Paleochronostratigraphy

Results - follow Symbiota structure of specimen/table/map view



Browse

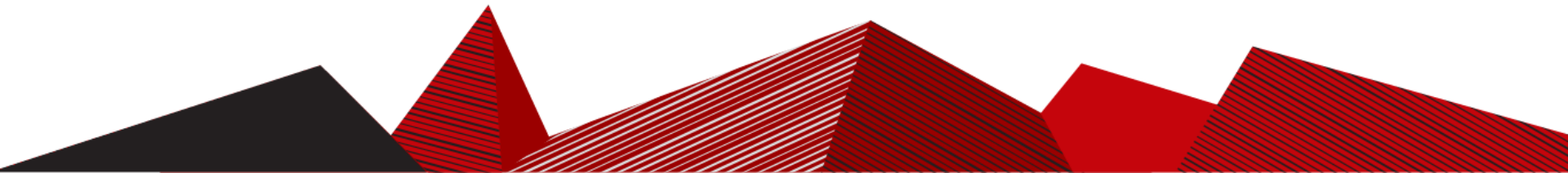
Browse taxonomic tree
http://fibonacci.math.wisc.edu/~rocha/mockup/browse-taxon.html

Taxon profiles – CREATE MOCKUP

http://fibonacci.math.wisc.edu/~rocha/mockup/taxon-profile.html

Browse specimens with images

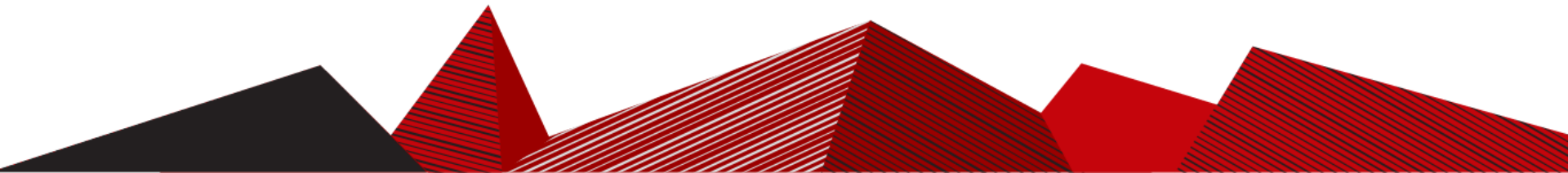
http://fibonacci.math.wisc.edu/~rocha/mockup/browse.html



Data Usage/Copyright

- Each collection can pick a data usage license
- https://creativecommons.org/licenses/
  - CC0 1.0 (Public Domain; No Rights Reserved)
  - CC BY (Attribution)
  - CC BY-NC (Attribution-Non-Commercial)

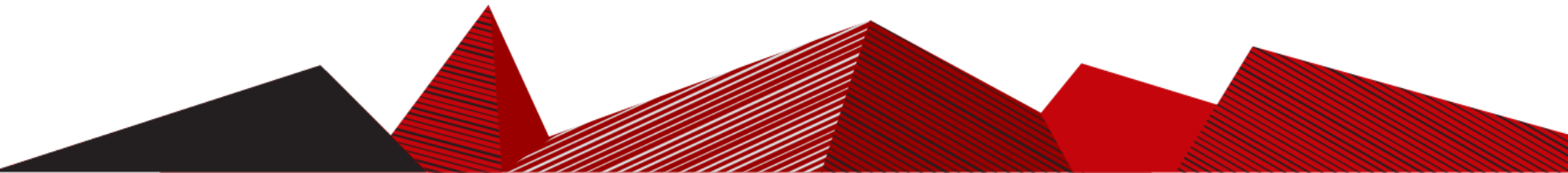
- Are users going to be able to download data?
- Locality/rare species restrictions have to be applied in the database
- Are we creating user areas for people that are not curators?



Virtual Exhibitions

http://fibonacci.math.wisc.edu/~rocha/mockup/exhibitions.html

http://fibonacci.math.wisc.edu/~rocha/mockup/ve-gems.html



Roadmap and status updates

https://arbolitoloco.github.io/uw2020/