

# GSOC 2022 Proposal



## Cuneiform Digital Library Initiative

### *New Features and Usability Enhancement*

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# New Features and Usability Enhancement - GSOC

## Abstract -

This project aims at adding new features to the CDLI framework and enhancing the usability of some of the pre-existing features. It includes presenting retired artifacts in a tabular format and redirecting users to the new entry when they link to a retired artifact. A new feature like the download button for the publications page will help users download it with all bib type options like bib, ris, formatted etcetera. Adding a feature to bulk update artifacts (multiple edit form) based on any of the properties of artifacts will be a huge time saver. Lastly, displaying a dropdown to export entity indexes in various formats like csv, ttf, json, json-rdf on all entity pages.

## Why New Features and Usability Enhancement?

Implementing the features in this proposal will be really helpful for all types of users. These features will increase the utility of the framework and bring more attention to it. Implementing new features like the bibliography export option for publications pages and export data for all indexes will enhance the user experience; allowing them to get the data in various formats. Addressing the retired artifacts issue will help in easing admin workflow.

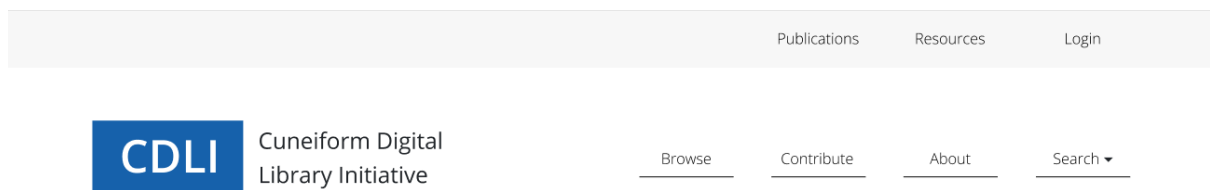
## Proposed Deliverables

### 1. Retired Artifacts (Issue [#747](#))

([Link to Figma Design](#))



This addresses the “retired” category of artifacts and enhancement related to them. This includes things like :

- Not searching or displaying retired artifacts
- Creating an index page to display all retired artifacts
- Adding a retired section to the edit artifact form so as to modify data of the associated retired\_artifacts entry.
- Letting users with sufficient access retire or un-retire an artifact
- If a user links to a retired artifact then they will be redirected to the new entry with a flash message about why the redirect happened; given that the artifact is public.
- Fixing artifact\_id and new\_artifact\_id fields in the retired artifacts table and moving these two columns in artifacts table.



## Retired Artifacts

Vivamus sagittis lacus vel augue laoreet rutrum faucibus dolor auctor. Duis mollis, est non commodo luctus. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque lobortis urna dolor, non sagittis velit posuere non. In nec est ut ante accumsan mattis in sed odio.

redirect_artifact_id	retired_comments	Actions
<a href="#">104994</a>	remove, = P104994	
<a href="#">124094</a>	Deleted per RKE 20030818; duplicate of P124094	

## 2. Export data on entities indexes (Issue [#786](#))


([Link to Figma Design](#))

Here, the aim is to provide an export function for the entity index pages which can export the indexes in the following formats:

- txt
- csv
- json
- ttl
- json-rdf

For example, the index for collection will look like this-

PublicationsResourcesLogin



Cuneiform Digital Library Initiative

BrowseContributeAboutSearch

Collections

+ Add Collection

collection 1

description

collection 2

description

collection 3

description

Export Collections

COLLECTION	ACTION
<a href="#">A. Blanchet, France (private)</a>	Edit
<a href="#">A. Carugo, Ivrea, Italy (private)</a>	Edit
<a href="#">A. H. Sayce, Edinburgh, UK (private)</a>	Edit
<a href="#">A. M. Chisholm Museum, Duluth, Minnesota, USA</a>	Edit

## Collection

+ Add Collection

collection 1

description

collection 2

description

collection 3

description

Export Collections ▼

Metadata/Catalogue

Flat catalogue

As CSV

Linked catalogue

As TTL

As JSON-RDF

Expanded catalogue

As JSON

ACTION

Edit

Edit

Edit

Edit

Edit

A. V. Lane Museum, Bridwell Library, Southern Methodist University, Dallas, Texas, USA

### 3. Export bibliography from publications pages (Issue [#521](#))

([Link to Figma Design](#))

This will add an export dropdown to the publications index and single view pages letting the user export them in various formats like bib, ris, formatted, etc. The download options on the index page will download the current page worth of references while the single view will download bibliography of a single publication.

Designation

Search

Reset

Export Bibliography ▼

As BibTeX

As Res

BIBTEX	THORS	DESIGNATION	REFERENCE	ACTION
Abraham2011	Abraham, Kathleen	Abraham	Abraham, K. (2011). title of her book.	Edit
	Abraham, Kathleen		Abraham, K. (2011).	Edit
	Abraham, Kathleen		Abraham, K. (2011).	Edit
	Abraham, Kathleen		Abraham, K. (2011).	Edit

## View Publication Details

**PUBLICATION**
[Edit](#)

<b>Designation</b>	
<b>Reference</b>	(N.d.). In Corpus of Mesopotamian Anti-Witchcraft Rituals, vol. 1 (Vol. 8). Brill: Leiden.
<b>Authors</b>	
<b>Editors</b>	

Export Reference

As BibTeX
As Res

**RELATED ARTIFACTS**
[Link Artifacts](#)

#### 4. Bulk Update on Interface (multiple edit form) (Issue [#280](#))


([Link to Figma Design](#))

To devise a way for bulk update of artifacts through the interface.

- Group the artifacts through search + filters
- Bulk update a particular attribute of all these artifacts with the same value
- Since Filemaker can't handle bulk updates now as the tables have grown a lot in size, find a way to perform the bulk updates.
- Create a form for the same

There will be a “Bulk Update” button on the search results page:

[Publications](#) [Resources](#) [Login](#)

 Cuneiform Digital Library Initiative



[Browse](#) [Contribute](#) [About](#) [Search ▾](#)

## Search the CDLI collection

Free Search ▾

[Advanced search](#) [Search settings](#) [+ Add search field](#) [Search](#)

Sort by: Relevance ▾

Search results for “CDLI Lexical 000002, ex. 065 in Free Search”

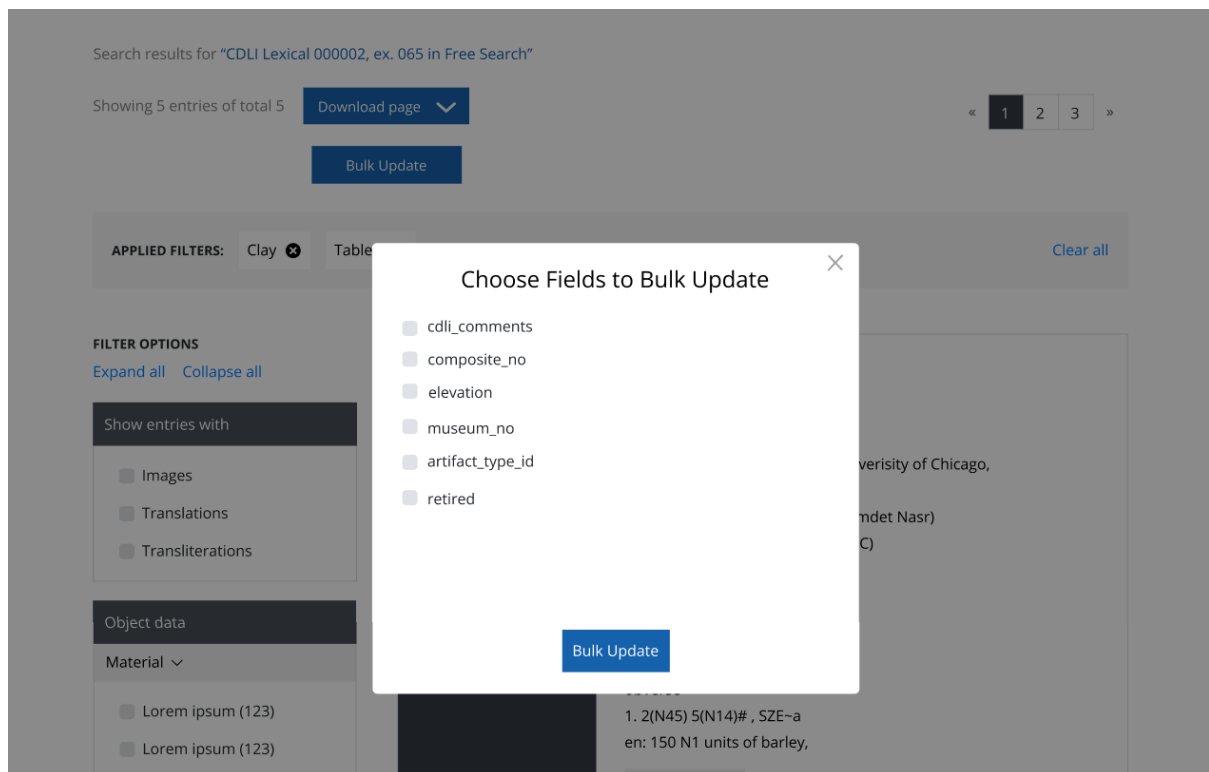
Showing 5 entries of total 5 [Download page ▾](#)

[Bulk Update](#)

APPLIED FILTERS: Clay ✕ Tablet ✕ [Clear all](#)

FILTER OPTIONS

Upon clicking this button, the following pop-up will appear where the user can choose what fields they want to bulk update.



After selecting the fields to be updated and clicking on "Bulk Update", the user will be taken to the Bulk Update page:

Publications Resources Login

**CDLI** Cuneiform Digital Library Initiative [Browse](#) [Contribute](#) [About](#) [Search](#)

## Bulk Update

**BULK UPDATE FIELDS**

cdli\_comments composite\_no elevation museum\_no

artifact\_type\_id retired

[Save](#)

Designation	cdli_comments	composite_no	elevation	museum_no	Language	Action
MSVO 1, 010	P104994					<a href="#">Edit</a>
MSVO 2, 010	P124094					<a href="#">Edit</a>



## Milestone Details-

### 1. Task 1 - Retired Artifacts

- Fixing the `artifact_id` and `new_artifact_id` fields in the retired artifacts table i.e. removing the character 'P' from these ids.

The entries having ids starting with 'P0' can be filtered out like this:

Showing rows 0 - 4 (5 total, Query took 0.0005 seconds.)

```
1 SELECT * FROM `retired_artifacts` WHERE new_artifact_id LIKE('P0%')|
```

Since there are only 5 such entries, these can be edited manually.

All of the remaining values can be updated using the following command for both the columns:

```
UPDATE
  retired_artifacts
SET
  retired_artifacts.artifact_id = REPLACE(retired_artifacts.artifact_id, 'P', '');
```

- Moving the `new_artifact_id` and `retired_for` columns from the `retired_artifacts` table into the corresponding rows of the `artifacts` table having their column names as `redirect_artifact_id` and `retired_comments` respectively.

This can be done using a simple SQL join statement.

- Modifying the ArtifactUpdate and Artifact Entities
  - Adding the two columns to the `$_accessible` variable

```
'redirect_artifact_id' => true,
'retired_comments' => true,
```

- Modifying the `$_mappings` variable

```
'redirect_artifact_id' => [],
'retired_comments' => [],
```

- Modifying the `$flatFields` array

```
'retired_artifact_id' => null,
'retired_comments' => null,
```

- Modifying the `getFlatValue()` function

```
case 'redirect_artifact_id': return $this->serializeDisplay($this->redirect_artifact_id, 'redirect_artifact_id');
case 'retired_comments': return $this->serializeDisplay($this->retired_comments, 'retired_comments');
```

- Listing all retired artifacts in an index :

```
<table class="table-bootstrap my-3 mx-0">
  <thead>
    <tr>
      <th scope="col">Retired Artifact ID</th>
      <th scope="col">Retired Comments</th>
      <?php if ($access_granted): ?>
        <th scope="col"><?= __('Action') ?></th>
      <?php endif ?>
    </tr>
  </thead>
  <tbody>
```

```
<?php foreach ($artifacts as $artifact): ?>
    <?php if ($artifact['retired'] == 1) : ?>
        <tr>
            <td>
                <?= $this->Html->link(
                    $artifact->id,
                    ['prefix' => false, 'action' => 'view', $artifact->id])
                ?>
            </td>
            <td><?= h($artifact->redirect_artifact_id) ?></td>
            <td><?= h($artifact->retired_comments) ?></td>
        </tr>
    <?php endif; ?>
<?php endforeach; ?>
</tbody>
</table>
```

- Redirecting to a new entry when someone links to the artifact number of a retired artifact

```
$artifact_updates = TableRegistry::getTableLocator()->get('ArtifactsUpdates');
$artifact_update = $artifact_updates->
    find()->
    where(['artifact_id' => $id]);
$redirect_artifact = $this->Artifacts->
    find()->
    where(['redirect_artifact_id' => $id]);
if(!is_null($artifact_update) && !is_null($redirect_artifact)) {
    return $this->redirect(['controller' => 'ArtifactsUpdates', 'action' => 'view', $id]);
}
else if(is_null($redirect_artifact)) {
    $this->Flash->error('The artifact you linked to does not exist anymore.');
```

- Not searching among and displaying retired artifacts

```
<?php
    foreach (array_keys($result) as $artifactID) {
        if ($artifactID['retired'] == 0) {
            unset($result[$artifactID]);
        }
    }
?>
```

Here, we have removed the artifacts that are retired from the `$result` variable in the search controller. As a result,

the retired artifacts will not be displayed on the search results page.

- Adding a “Retired Artifacts” section to artifact edit form

```
<?php if ($artifact['retired'] == 1) : ?>
    <?= $this->Form->control('redirect_artifact_id', ['class' => 'form-control w-100 mb-3', 'label' => __('Redirect Artifact Id')]) ?>
    <?= $this->Form->control('retired_comments', ['class' => 'form-control w-100 mb-3', 'label' => __('Comments')]) ?>
<?php endif ?>
```

## 2. Task 2 - Export Data on Entities Index

- Loading the components in the controller for different file formats

```
parent::initialize();
$this->loadComponent('LinkedData');
$this->loadComponent('TableExport');
```

- Creating a Utility class for handling the export functionality which has the following two functions-
  - Creating a function that detects the export type using the pre-existing components(TableExportComponent and LinkedDataComponent)

```
private function _isApiRequest()
{
    $type = $this->RequestHandler->prefers();
    debug($type);
    return $type === 'json' || $this->LinkedData->isSupported($type) ||
        $this->TableExport->requestsTableExport($type);
}
```

- Creating a function to set the variables

```
private function _setApiVariables($givenEntity, $params)
{
    $aspect = $this->getRequest()->getParam('aspect');
    $entities;

    $entities = $givenEntity[0]['items']
    $this->set([
        'entities' => $entities,
        '_admin' => $this->GranularAccess->isAdmin(),
        '_serialize' => 'entities'
    ]);
}
```

Which can later be called in any controller as-

```
Export::_setApiVariables($collections, $this->settings)
```

(Here, we assume that the function is called in the collections controller)

### 3. Task 3 - Bulk Update on interface

- Create a “Bulk Update” button on search results

```
<button
    class="btn btn-primary cdli-btn-blue mb-3 p-2 w-30"
    data-toggle="modal"
    data-target="#bulk-fields-modal">
    Bulk Update
</button>
```

- Create the modal

The modal will be bootstrap based, just like some existing ones in the framework. Inside the modal, there will be a form similar to this:

```
</div>
<div class="text-left p-2">
  <?= $this->Form->create() ?>
  <?php
    $fields = ['cdli_comments', 'elevation', 'museum_no'];
    foreach($fields as $item) {
      echo $this->Form->control($item, ['type' => 'checkbox']);
    }
  ?>
</div>
<div class="d-flex justify-content-center p-2">
  <?= $this->Form->button(__('Bulk Update'), ['class' => 'btn btn-primary']) ?>
  <?= $this->Form->end() ?>
</div>
```

- Create the BulkUpdate index page

The fields for the bulk update form will be created by looping over `$arr` which has the name of each field chosen by the user from the above modal. This array will be passed down from the controller (hardcoded for now).

```
<?php $arr = ['cdli_comments', 'composite_no', 'elevation', 'museum_no', 'artifact_type_id', 'retired'] ?>
```

```
<?= $this->Form->create() ?>
<legend class="form-heading mb-3"><?= __('BULK UPDATE FIELDS') ?></legend>
<div class="row">
  <?php foreach ($arr as $field) {
    echo $this->Form->control($field, ['class' => 'form-control w-80 mb-3 ml-3', 'label' => ['class' => 'ml-3', 'text' => $field], 'type' => 'text']);
  }
  ?>
</div>

<div class="pt-2 text-right">
  <?= $this->Form->button(__('Save'), ['class' => 'btn btn-primary cdli-btn-blue', 'id' => 'submit']) ?>
  <?= $this->Form->end() ?>
</div>
```

The table to be shown below this form will be made as usual.

#### 4. Task 4 - Export bibliography from publications pages

- Create an element to export bibliography in multiple formats
  - On the single view, clicking a link like this from the dropdown will download the bibliography.

```
<?=$this->Html->link(
    __('As {0}', 'BibTeX'),
    [
        'controller' => 'Publications',
        'action' => 'index',
        '?' => ['publication' => $publication->id],
        '_ext' => 'bib'
    ],
    ['class' => 'ml-5']
) ?>
```

- On the index page also there will be a dropdown having links that if clicked will download the bibliography of the current page.
- The export functionality of the index page will be similar as in Task 2

## Timeline

Milestone	Week	Objective(s)	Tasks
Milestone 1	Week 1 13 June - 19 June Week 2 20 June- 26 June Week 3 27 June - 3 July	Implementing features for retired artifacts	<ul style="list-style-type: none"> <li>- Fixing id fields</li> <li>- Moving 2 columns to artifact table</li> <li>- Modifying ArtifactUpdate &amp; Artifact Entities</li> <li>- Create index page</li> <li>- Redirect users to new entry</li> <li>- Not searching among/displaying retired artifacts</li> <li>- Adding retired artifact section to edit artifact form</li> </ul>
	Week 4 4 July - 10 July	1. Testing Milestone 1 manually 2. Writing the Documentation	
Milestone 2	Week 5 11 July - 17 Week 6 18 July- 24 July	Export data on entities indexes	<ul style="list-style-type: none"> <li>- Create an export button element and display it on all entities indexes.</li> <li>- Implementing the Utility class for entity exports.</li> </ul>
	Week 7 25 July - 31 July	1. Testing Milestone 2 Manually 2. Writing the Documentation	
Milestone 3	Week 8 1 Aug - 7 Aug Week 9 8 Aug - 14 Aug	Bulk update on interface	<ul style="list-style-type: none"> <li>- Create the Bulk Update button on the search results page</li> <li>- Create modal for choosing fields to be bulk updated</li> <li>- Create controller for bulk edit</li> <li>- Create bulk edit page</li> </ul>
	Week 10 15 Aug - 21 Aug	1. Testing Milestone 3 manually 2. Writing the Documentation	



Milestone 4	Week 11 22 Aug - 28 Aug	Export bibliography from publication pages	- Create button to export bibliography in BibTex format on single and index views
	Week 12 29 Aug - 4 Sept	1. Testing Milestone 4 manually 2. Writing the Documentation	

## Contributions to CDLI -

I have been contributing to CDLI since August 2021. The following are some of my contributions since then -

1. [Displayed dl assets properly](#) - improvement
2. [Added biography to author info](#) - improvement
3. [Add/edit forms for Proveniences](#) - improvement
4. [Added the 2FA reset button and password reset](#) - improvement
5. [Changed CDLI favicon logo](#) - improvement
6. [Added ckeditor description field to collections](#) - improvement
7. [Added edit button to postings view](#) - improvement

All my contributions can be viewed [here](#)

## Projects -

This is a list of the projects I have made -

### 1. Discord Quiz Bot :

- This project uses the discord.py python library.
- This is a simple quiz bot that was made on Repl.it and uses the open trivia API.
- The bot has 2 types of questions - True/False and MCQ-type questions.
- The user can set the type of the questions.
- The user can see their score and also the leaderboard.
- Link to the GitHub Repository: [Shivoham102/Discord-Quiz-Bot \(github.com\)](https://github.com/Shivoham102/Discord-Quiz-Bot)

### 2. ShareIt Clone (Ongoing) :

- It allows users to share images and files just by scanning a QR code.
- Link to GitHub Repository: [Shivoham102/share-app \(github.com\)](https://github.com/Shivoham102/share-app)

### 3. Website for IEEE-VESIT :

- As second-year coordinators of the council, we made a website for IEEE-VESIT for the year 2020-21 using google sites and some external code.
- Link to the website: <https://www.ieeevesit.org/home>  
(Unfortunately the free hosting period for google sites has ended meaning the site can't be viewed anymore)

#### 4. Website for Vesit Renaissance Cell (VRC) Internship

- As interns, we had to make a web-app to teach Vedic math sutras/formulas to kids.
- The user can watch videos for particular “sutras” and also practice using the practice quizzes.
- Along with web pages, also created videos for 3 sutras/formulas using Animaker and learned using a video editing tool in the process.
- Link to the GitHub Repository: [Shivoham102/vedic-math-web-app \(github.com\)](https://github.com/Shivoham102/vedic-math-web-app)

#### 5. Anti-phishing Portal:

- The portal helps users to detect phishing URLs, and also guides users about the ways to prevent phishing. This portal was made for a hackathon along with my team.
- Used JavaScript, PHP, HTML and CSS
- Link to GitHub Repository: [Aditi-Singh16/Anti-Phishing-Website \(github.com\)](https://github.com/Aditi-Singh16/Anti-Phishing-Website)

#### 6. Soil Test Analysis Website

- This was a college group project for the second year.
- On this website, the farmers submit a request for the analysis of their soil sample.
- Then the lab personnel generates a report of a particular farmer’s soil sample with suggestions for crops the farmer can grow.
- Link to the GitHub Repository: [Shivoham102/soil-test-analysis \(github.com\)](https://github.com/Shivoham102/soil-test-analysis)

#### 7. Web Development Internship - The Sparks Foundation

- As an intern, my task was to create a simple banking website where a user can transfer money to other users.
- Link to GitHub Repository : [Shivoham102/Basic-Banking-System \(github.com\)](https://github.com/Shivoham102/Basic-Banking-System)

## Why CDLI?

While searching for organizations for GSoC, I stumbled upon CDLI. I explored the code base and found cakephp quite interesting and the people here are also very friendly. Also, I liked how the organization is keeping a record of artifacts and texts from around the world and from different periods of time. So, I would love to make even more contributions to this amazing organization through GSoC.

## Why Me?

I have been contributing to CDLI for around 8 months, and in doing so I have understood the CDLI framework well enough along with getting a good idea of the MVC architecture. I have made projects using HTML, CSS and PHP and also have some experience in React; giving me a general idea of how websites work. I believe that at this point, I can solve issues quite efficiently as well.