PROPOSAL - GOOGLE SUMMER OF CODE 2024 at CREATIVE COMMONS

MODERNIZE CC RESOURCE ARCHIVE

BY

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REPOSITORY LINK

SITE LINK

Project Synopsis

The CC resource archive website's visual setup is outdated and requires a comprehensive overhaul to align with the current Creative Commons (CC) aesthetics and functionality standards.
Current CC sites use the Internal Design System (Vocabulary) for the design and functioning. The proposed outcomes include upgrading the visual design by utilizing Vocabulary and implementing semantic, accessible, and standards-compliant HTML, CSS, and JavaScript. The main task would be to improve user experience (UX) for resource submission and accessibility while ensuring the functioning of a stable site hosted on GitHub pages. By executing these tasks and providing solid documentation, the Resources Archive will not only meet current standards but also enhance usability and maintainability for users and developers alike.

Project Plan

The Problem

All the Creative Commons sites follow similar rules in terms of visual setup, thanks to the Internal Design System (Vocabulary). Some of the common design features, generally spanning across all the CC sites include:-

- White background with the headings (h1, h2,) in black color and paragraph text in black or grayish color.
- Black-colored CC logo (which is not present in the resource archive).
- Fonts like Roboto Condensed and Source Sans Pro.
- Use of Sidebars wherever necessary for navigation across the page.
- Standard CC footer design (which I already implemented, see contributions section).

Problems or areas of improvement (apart from the ones listed above) in the CC resource archive include:-

- Resource submission experience should be improved.
- Filtering of resources should incorporate a better user interface.
- Applying Semantic, accessible and standards-reliant code (HTML, CSS, JS)
- In the GitHub repository, documentation (README.md) lacks the local development guide using Jekyll installation. The docker setup is easier but the Jekyll setup should also be mentioned.

- Thumbnails of resources could be enhanced for better visual impact and user experience.
- Uniform link styling needed: Not all links should be underlined; Instead, changing color on hover will improve UI clarity.
- Absence of a well-structured header for the website.
- Inconsistent responsiveness across site elements.
- Other *issues* are actively being worked upon in the repository.

These problems give the website an overall outdated visual setup, and separates it from the consistent design of the other creative commons sites, as described in the project description too. The Resource Archive is an important site and needs to be updated.

The Solution

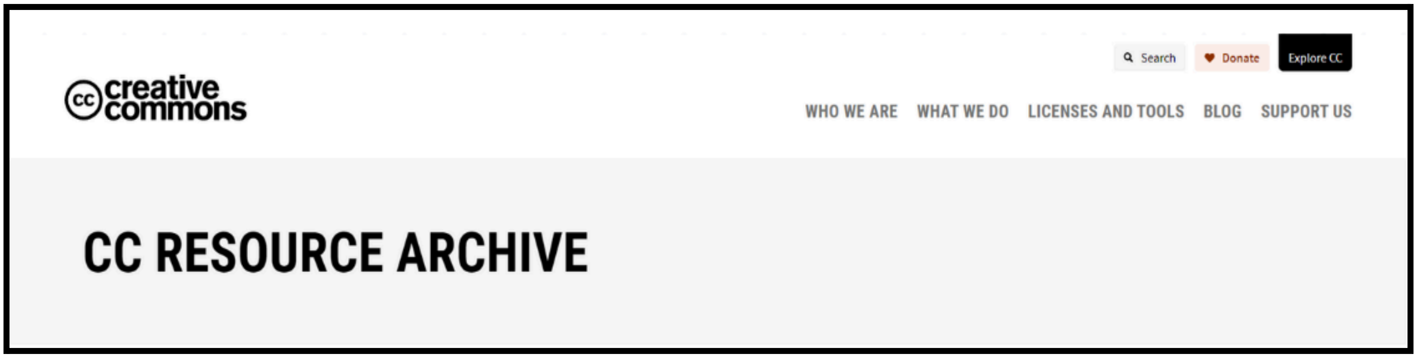
I propose a site that does not lag behind in terms of user interface, functionality and code quality. The goals that I have, to make this work are listed below. I do not believe in over-committing work and that's why I included some *Stretch Goals* for the project which can be done once I complete the main goals.

- **Codebase Refactoring:** The code should be optimized for performance, improved readability, and compliance with current web standards and CC aesthetics. Modern, semantic, and accessible code practices will help. For example,
    - In the CSS file, items are given `display: table-cell`, to achieve what can be achieved by `display: flex` which is more flexible for use. There are more such examples, thorough research of the code will help me find and correct all of them.
    - Also, in HTML files instead of using too many divs, the use of self-explanatory elements like section, footer, header, main, etc.. will make the code easily readable and collaborative.

- **Visual Upgrade:** Leveraging CC's Internal Design System (Vocabulary), I will update the visual elements such as typography, color schemes, icons, and layout to ensure consistency across all CC platforms. The design of buttons, Boxes, etc. can be improved a lot to give the site an overall consistent design scheme as per CC sites.

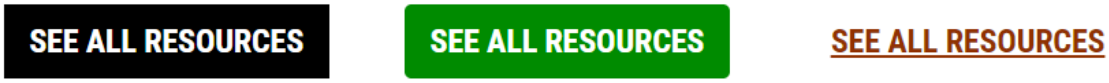
  Here are some design ideas inspired by observing different CC sites (these can also be changed later by discussing with the mentor)

- The header can be upgraded to be like other CC sites

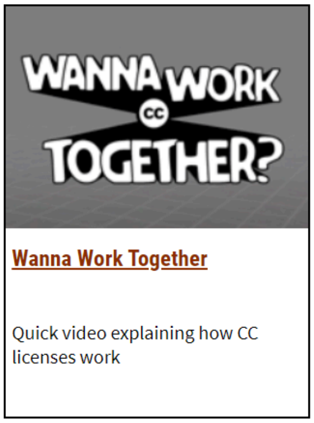


CC RESOURCE ARCHIVE

- The design of buttons can be improved according to CC aesthetics

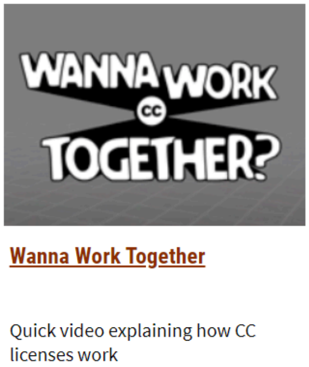


- The design of Resources Cards can be made to match one of the following designs :



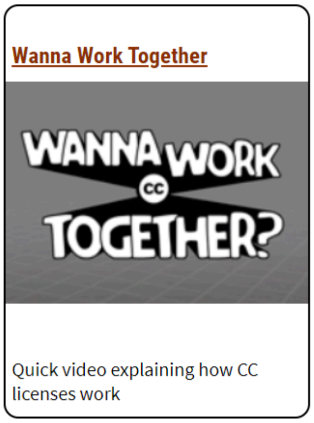
Wanna Work Together

Quick video explaining how CC licenses work



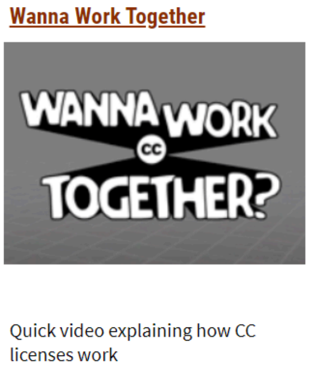
Wanna Work Together

Quick video explaining how CC licenses work



Wanna Work Together

Quick video explaining how CC licenses work

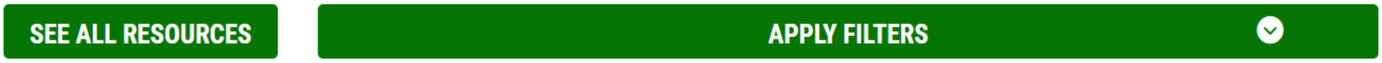


Wanna Work Together

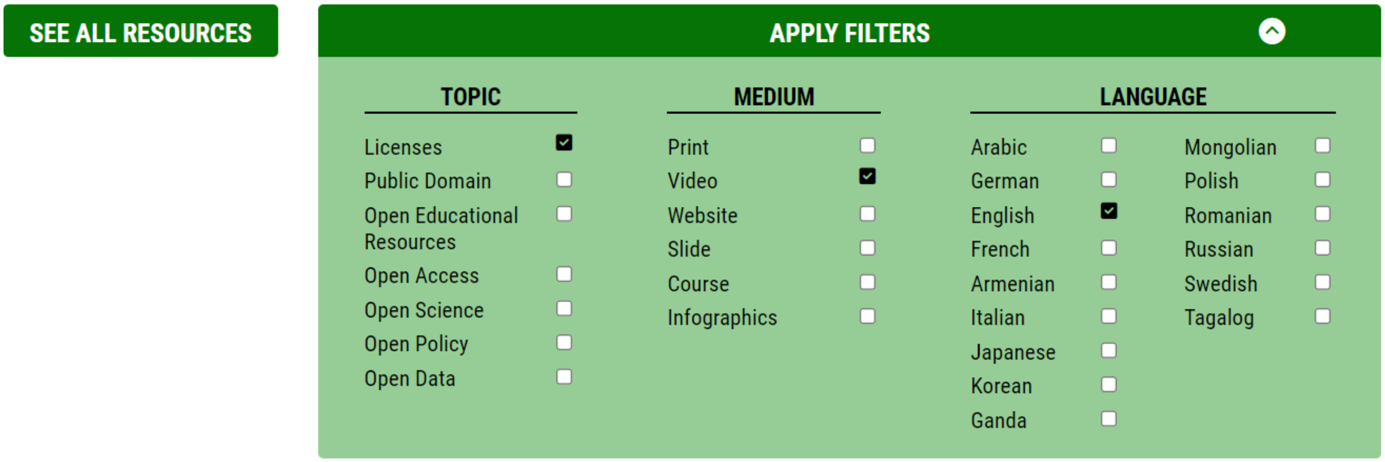
Quick video explaining how CC licenses work

- **UX for Resources Filtering and Search:** Resource Submission, Search, and Access will be improved. This involves streamlining the submission process, enhancing search functionality with intuitive filters, and optimizing navigation for easier resource discovery.

The buttons for search filters :



On Expanding the “APPLY FILTERS” box, the filters can be customized and it is up to the user whether or not they want to contract the box.



TOPIC

Licenses ☑
Public Domain □
Open Educational Resources □
Open Access □
Open Science □
Open Policy □
Open Data □

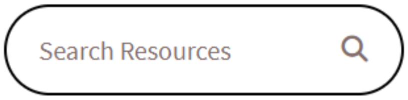
MEDIUM

Print □
Video ☑
Website □
Slide □
Course □
Infographics □

LANGUAGE

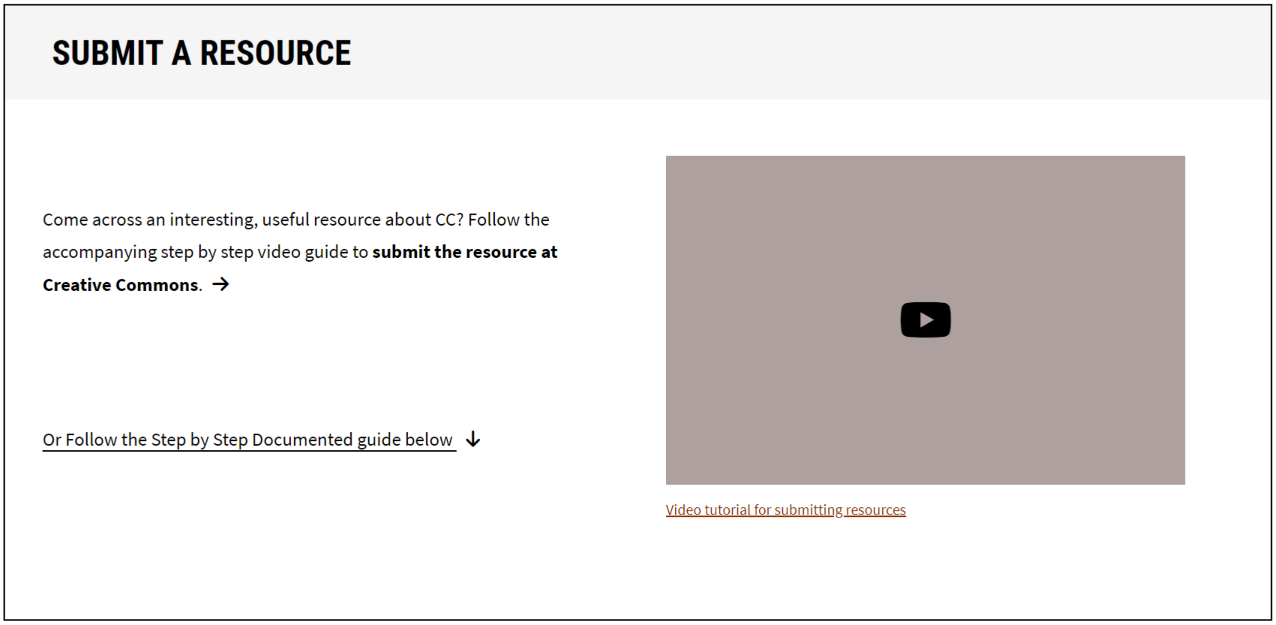
Arabic □
German □
English ☑
French □
Armenian □
Italian □
Japanese □
Korean □
Ganda □
Mongolian □
Polish □
Romanian □
Russian □
Swedish □
Tagalog □

Also, a search button can be implemented for easily searching any specific resources



The aforementioned designs are subject to modification, as per the requirement of the project.

- **UI for Resource Submission:** The existing user interface for resource submission lacks intuitive functionality, particularly for individuals less familiar with GitHub. To address this, I propose implementing a comprehensive solution: a video guide demonstrating each step of the resource submission process with clarity and precision along with a step-by-step written guide. Furthermore, upon the achievement of primary project objectives, I intend to explore the enhancement of resource submission automation as a Stretch goal, engaging in discussions with mentors to refine this aspect further.



SUBMIT A RESOURCE

Come across an interesting, useful resource about CC? Follow the accompanying step by step video guide to **submit the resource at Creative Commons**. →

Or Follow the Step by Step Documented guide below ↓

Video tutorial for submitting resources

More information about the UI based approach for Resource Submission is present in the Stretch Goals section later in this document.

- **Static site:** To ensure stability and easy maintenance processes, I will ensure the site functions as a static site hosted on GitHub pages, with lightweight and popular static site generator Jekyll. Apart from reading the codebase of the cc-resource-archive repository, for learning more about Jekyll and GitHub pages, I also worked on the *Jekyll-theme-chirpy* by forking it and then editing it according to my needs, along with reading the code to better understand the file structure of a Jekyll-based site. My fork of the repository is *here*.

- **Documentation:** Throughout the development process, I will maintain comprehensive documentation within the codebase. This documentation will provide clear instructions on how the codebase is structured, how components and features are implemented, and any dependencies or configurations required for future maintenance and updates. Apart from the technical documentation, since I love building and developing, I crafted a *site for documenting my whole GSoC journey*. This will not only reflect the amount of progress I make but will also act as a guide for upcoming developers.

- **Improved Design for website images:** Leveraging my knowledge of graphic design and my Interest in creative designing, I would like to enhance the images being used in the site like resource thumbnail images.

- **Development Environment:** I will timely test Docker configurations to maintain a consistent development environment, and to ensure compatibility with the updated site structure. Will also focus on optimizing docker configurations for better performance and stability, if needed.

- **Responsiveness and Browser Compatibility:** While selecting the dimensions and other CSS properties, I will keep in mind that the site has to be responsive and should adapt to varying screen sizes. Also, after completion of the site, I'll devote some extra time just to fix the responsibility issues. The website will be tested on different browsers and consistent behavior will be ensured.

- **Accessibility:** The site will be accessible just by the keyboard too, not requiring a mouse. This will be achieved by semantic and accessible HTML elements such as buttons, inputs, etc. which have inbuilt keyboard functionality.

To ensure the successful completion of these goals, I will closely follow the proposed timeline of tasks present later in this document and would adhere to the following rules:

1. Weekly review meetings with the mentor, where I will update about all the work done and ask my doubts related to the project.
2. Get the timeline plan printed and will paste it on my desk to ensure I keep record of my progress made in accordance with the plan.
3. During the community bonding period, I will make sure I ask many questions from my mentor about the project, to avoid any last-minute problems.
4. Considering the case of any unforeseen circumstances, I made the timeline plan very flexible and doable, to not commit something which I cannot do. I will always try to do the work well before the deadline so that work can be done on the stretch goals which are listed later in this document.

Research & References

To better understand the project and plan my GSoC journey, I have consulted the following resources apart from the main codebase of the repository:-

- *Jekyll site's documentation* for installation and integration of Jekyll with the project that I created in order to understand the workflow of Jekyll sites hosted on GitHub pages.
- *Giraffe Academy's youtube playlist* which shows the working tutorial of Jekyll in detail. The videos are beginner friendly and helped me understand the layout of Jekyll sites better.
- *GitHub's documentation* on hosting a Jekyll site with the help of github pages.
- *Jekyll-Theme-Chirpy* is a theme for Jekyll sites already made by Cotes Chung (*github*), by forking this I got my first hands on experience in working on Jekyll sites. I edited the repository codebase and got to know more about the file structure and flow of Jekyll-based sites.
- I thoroughly conducted research on various Creative Commons sites to notice the design schemes and similarities across sites. Consistent fonts, button designs, etc. were the things I was looking for. Some sites were
  - *Creative Commons Open Source*
  - *CC Open Source Blog*
  - *CC org main website*
  - *CC Licenses page*
- *CC Index-prototype repository* helped me with the latest code for Internal Design System (Vocabulary).

Milestones

Below are some major milestones that I aim to cover over the course of this project:-

- ❖ Successful setup of Docker Environment and project initialisation.
- ❖ Refactoring of vocabulary completed.
- ❖ Refactoring of listing.html and resource.html completed.
- ❖ UX for accessing and filtering resources improved.
- ❖ All UI improvements completed along with responsiveness and accessibility testing.
- ❖ Comprehensive documentation completed.
- ❖ Documentation of the whole GSoC journey on my personal site.
- ❖ Implementing Search functionality for the resources.
- ❖ Improving the process of submission of resources.

Stretch Goals

After successfully achieving the primary objectives outlined in the project proposal, I would like to work upon some stretch goals which I propose. It's important to note that the proposed stretch goals are flexible and amenable to modification based on the evolving requirements of the project. These are just some good suggestions to include in the project.

The timeline dedicated for these stretch goals extends beyond the initial 12-week period allocated for the core project tasks. However, I am committed to execute them timely and aim to accomplish them within the extended 22-week timeframe.. The Stretch goals are :-

1. **Lunr.js for Search functionality**
   The benefits of using Lunr.js in the site include:
   - Lunr is completely a client side library, no server side rendering is required.

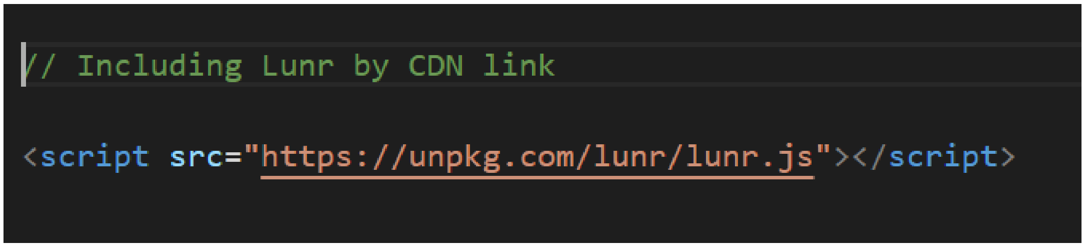
   - Libraries like Lunr.js are optimized for search operations, especially when dealing with large datasets. They often employ indexing and other techniques to make searches faster and more efficient compared to basic JavaScript implementations.

   - Lunr.js offers advanced features such as **fuzzy search**, stemming, and relevance ranking out of the box. These features can improve the user experience by providing more accurate and relevant search results.

   - Lunr.js abstracts away many of the complexities of implementing search functionality from scratch. They provide simple APIs and configuration options, making it easier for developers to integrate search into their websites without having to write complex code.

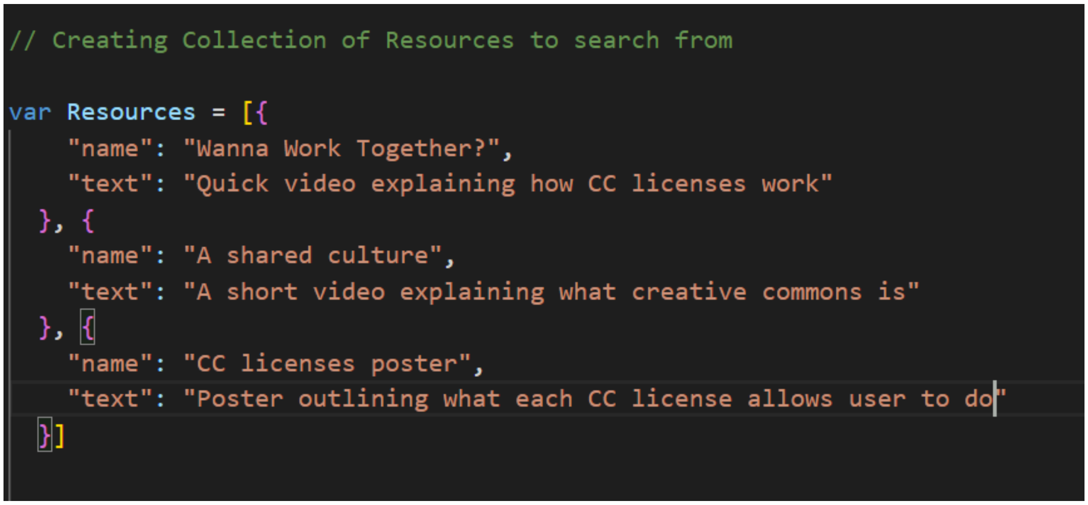
   - Lunr is tested across *different browsers and devices*, ensuring consistent behavior and compatibility with a wide range of platforms.

   For the implementation of Lunr.js,
   - First we will have to include Lunr.js in our codebase. Detailed instructions for this integration can be found in the Lunr documentation, enabling us to enhance search capabilities and align with industry standards efficiently.



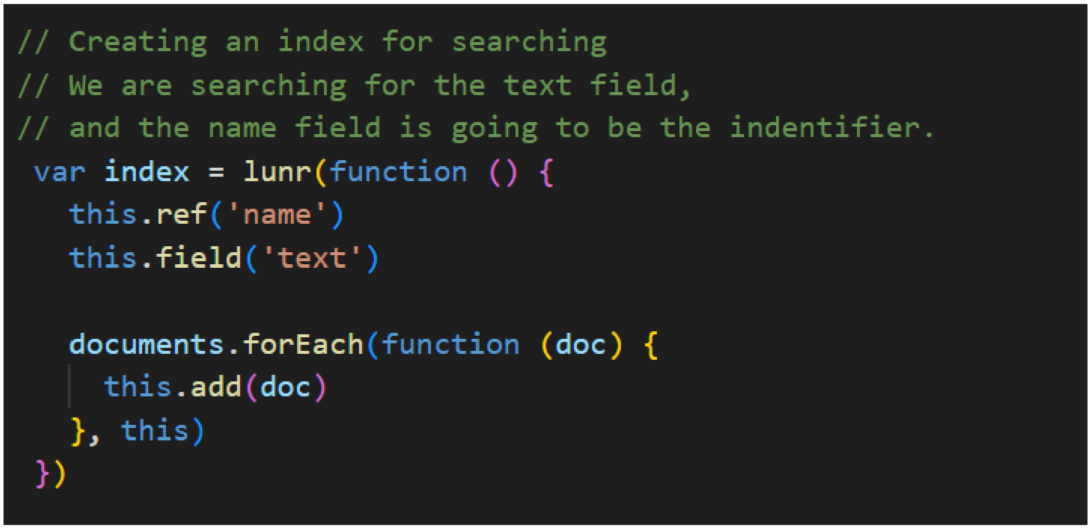
```
// Including Lunr by CDN link

<script src="https://unpkg.com/lunr/lunr.js"></script>
```

- Then a collection of all the resources will be defined, from where the search will start.



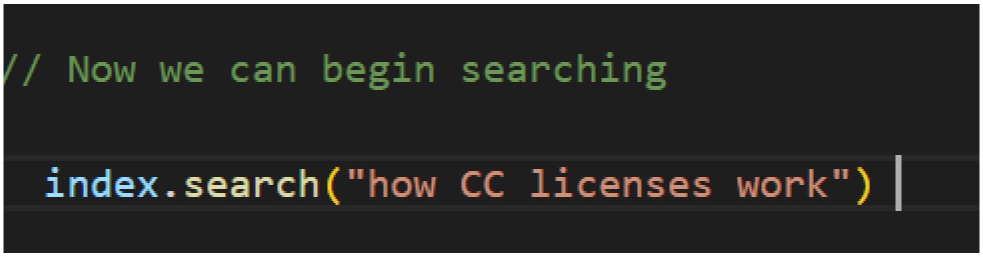
```
// Creating Collection of Resources to search from

var Resources = [{
    "name": "Wanna Work Together?",
    "text": "Quick video explaining how CC licenses work"
  }, {
    "name": "A shared culture",
    "text": "A short video explaining what creative commons is"
  }, {
    "name": "CC licenses poster",
    "text": "Poster outlining what each CC license allows user to do"
  }]
```

- An index needs to be created for search algorithms to begin with.



```
// Creating an index for searching
// We are searching for the text field,
// and the name field is going to be the indentifier.
 var index = lunr(function () {
   this.ref('name')
   this.field('text')

   documents.forEach(function (doc) {
     this.add(doc)
   }, this)
 })
```

- Now the search functionality can be started with testing it.



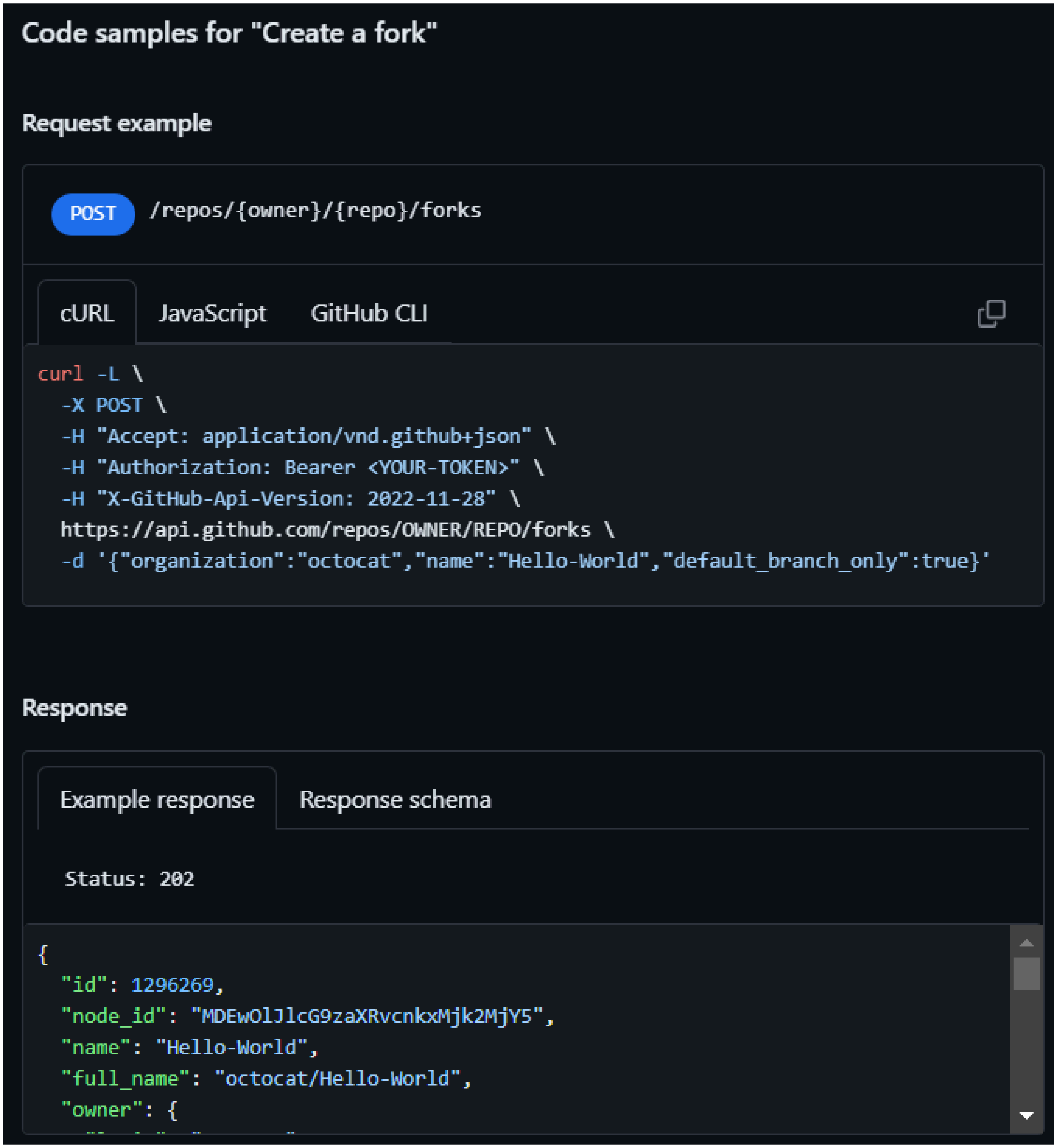
```
// Now we can begin searching

 index.search("how CC licenses work")
```

2. **Thumbnails for Resource Cards**

   To enhance the visual appeal of the resource cards, I propose a redesign of the thumbnails, aiming to refresh their appearance and increase engagement. Leveraging my expertise in UI/UX design and proficiency with Canva, a renowned design tool, I will craft visually captivating thumbnails that align with our desired aesthetic. This initiative will contribute to an improved user experience and elevate the overall presentation of our website's resources.

3. **Automated UX for Submission of Resources**
   As of now, the process for submission of resources is manual. The user has to fork the repository, and then open a pull request to get the job done. The goal of this task is to enhance the user experience and streamline workflow automation for our project by integrating GitHub functionality directly into our website. By implementing this solution, I aim to simplify the process of submitting data and contributing to our project, thereby increasing user engagement and participation. This integration will not only benefit our project but also provide a seamless experience for our users.

   The goal can also be modified according to the need of the project, in consultation with the mentor. We can also try some other way to implement a UI based approach for the submission of resources.
   This task will leverage the GitHub REST API which can help in automating tasks with github actions.



Code samples for "Create a fork"

Request example

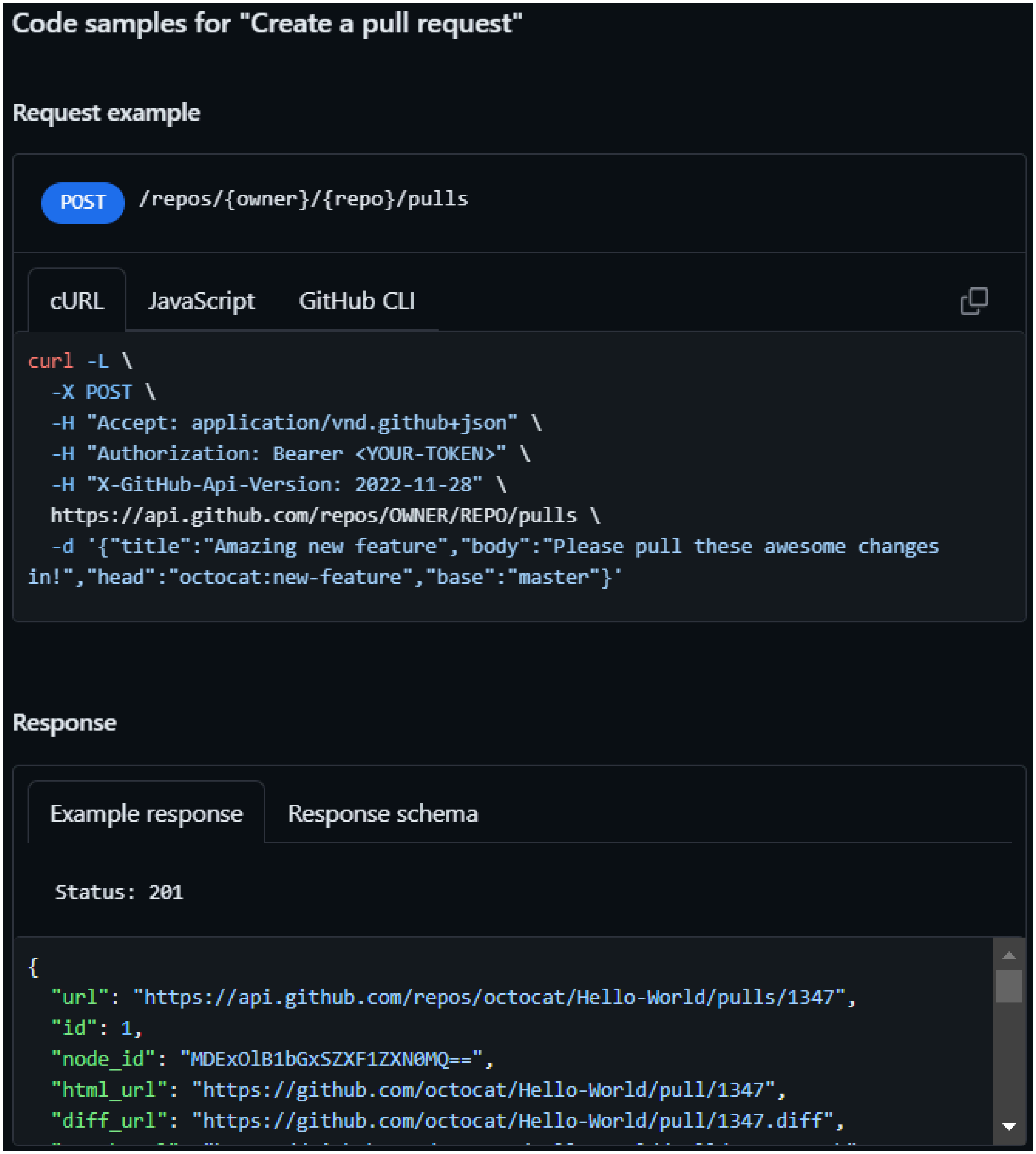
/repos/{owner}/{repo}/forks

```
curl -L \
  -X POST \
  -H "Accept: application/vnd.github+json" \
  -H "Authorization: Bearer <YOUR-TOKEN>" \
  -H "X-GitHub-Api-Version: 2022-11-28" \
  https://api.github.com/repos/OWNER/REPO/forks \
  -d '{"organization":"octocat","name":"Hello-World","default_branch_only":true}'
```

Response

Status: 202

```
{
  "id": 1296269,
  "node_id": "MDEwOlJlcG9zaXRvcnkxMjk2MjY5",
  "name": "Hello-World",
  "full_name": "octocat/Hello-World",
  "owner": {
```



Code samples for "Create a pull request"

Request example

POST /repos/{owner}/{repo}/pulls

```
curl -L \
  -X POST \
  -H "Accept: application/vnd.github+json" \
  -H "Authorization: Bearer <YOUR-TOKEN>" \
  -H "X-GitHub-Api-Version: 2022-11-28" \
  https://api.github.com/repos/OWNER/REPO/pulls \
  -d '{"title":"Amazing new feature","body":"Please pull these awesome changes in!","head":"octocat:new-feature","base":"master"}'
```

Response

Status: 201

```
{
  "url": "https://api.github.com/repos/octocat/Hello-World/pulls/1347",
  "id": 1,
  "node_id": "MDExOlB1bGxSZXF1ZXN0MQ==",
  "html_url": "https://github.com/octocat/Hello-World/pull/1347",
  "diff_url": "https://github.com/octocat/Hello-World/pull/1347.diff",
```

This task involves dealing with authorisation of the user's github account with write access, So I'll have to be extra careful about security issues. Moreover, The manual documentation and tutorial will be available for users on the website,
And it would be made very clear that the users have both the ways to do the task.

Timeline & Deliverables

During weeks 1 to 7 of the GSoC period, I will be on Summer Vacations, allowing for an increased allocation of work during this time. Subsequently, as the semester commences, I will seamlessly integrate GSoC responsibilities with academic studies, as there are no scheduled exams within the 12-week timeframe.
Notably, week 6 is designated with a lighter workload to accommodate any unforeseen circumstances that may arise during the summer break. This week can be scheduled flexibly to ensure adaptability to any unexpected events or constraints. While I anticipate being available for the entirety of the GSoC period, I remain prepared to address any short-notice constraints that may arise.
As stated above in the solution section, I plan to organize **weekly review meetings** with the mentor apart from other timely updates.
I have made this timeline very doable, So that the deliverables are completed on time.

Timeline	Deliverables
Pre work program	1. Solve issue #35. 2. My review of PR #83 suggests an optimized solution for the existing PR, have to work on that. 3. Solve issue #26. 4. Hep resolving issue #110 and issue #210 5. Help in reviewing unmerged PRs of contributors. 6. Creating a Jekyll-based site hosted on GitHub pages, to get more practical experience on the work ahead.
Community Bonding Period	1. Familiarizing more with the Community and clearing my doubts regarding the project, and discussing more on the expectations for this project. 2. Connecting with other contributors who are going to work with creative commons in the future. 3. Discuss about different basic design schemes with the mentor, and finalizing design of elements to be used. 4. Reading more about Liquid Template Language. 5. Creating a Docker Environment for one of my sites. 6. Configure the project's Docker environment for local development and GitHub Pages for the deployment.
Week 1 Mon 5/27 - Sat 6/2	1. Setup the project and test for any problems in the development environment with Docker. 2. Research about sites that do not require a mouse and can be navigated just by the keyboard. 3. Read full Internal Design System (Vocabulary) code.

Week 2 Mon 6/3 - Sat 6/9	1. Start refactoring HTML and CSS for semantic and accessible standards compliance. 2. Refactoring the code of vocabulary.css to modern semantic, accessible and standards compliant CSS.
Week 3 Mon 6/10 - Sat 6/16	1. Completing the rectification of code in vocabulary 2. Refactoring the code for vocabulary.js 3. Generating clear Documentation for the Vocabulary code including all the files present. (all the variables and sections for which the CSS is applicable will be described)
Week 4 Mon 6/17 - Sat 6/23	1. Refactor the code for listings.html 2. Improve the UI for listings.html by using Vocabulary. 3. Improve the Design for Thumbnail cards, headings, etc. according to current CC aesthetics. 4. Clear Documentation of all the changes made in code for future maintainability.
Week 5 Mon 6/24 - Sat 6/30	1. Refactor the code for resource.html 2. Write semantic and accessible HTML code for resource.html file 3. Enhance the interface for the resource page according to the Internal Design System, Including the buttons, Headings, CC header, footer. 4. Check for any responsiveness issues. 5. Clear Documentation of the code for easy understanding and maintainability.
Week 6 Mon 7/1 - Sat 7/7	1. Required UI enhancements for overall site such as standard CC Header, smooth dropping of the global header, and minor responsiveness fixes. 2. Ensuring the whole site follows current CC aesthetics and Documenting whole code changes. 3. Ensuring my own documentation for GSoC'24 journey is updated for the work till week 6
Week 7 Mon 7/8 - Sat 7/14 (Midterm eval due 7/12)	1. Rewrite the code for the user interface of Submission of Resources. 2. Record a video demonstrating the step-by-step process to submit resources and embed it in the page. 3. Write clear documentation for submitting resources, broken into easy steps. 4. Adding the header and footer to the resource submission page and ensuring CC visual design. 5. Discuss about the Midterm evaluation with the mentor.

Week 8 Mon 7/15 - Sat 7/21	1. Start working on the filter resources task proposed above in the Solution section. 2. Make the User Interface for the selection of resource filters based on TOPIC, MEDIUM and LANGUAGE. 3. Utilize Vocabulary and write semantic, accessible HTML and CSS for crafting the UI for filtering of resources. 4. Write optimized Javascript code for the functionality of filtering resources. 5. Documentation of all the code changes wherever necessary.
Week 9 Mon 7/22 - Sat 7/28	1. Complete any work left on the filtering of resources. 2. Draft clear documentation especially for the JavaScript code (assigning of variables will be clearly described). 3. Making sure my own Documentation for GSoC'24 journey remains updated, and adding all the details happened till week 9.
Week 10 Mon 7/29 - Sat 8/4	1. Fixing the overall responsiveness for the site. 2. Check for responsiveness of different pages including resource submission, resource page. 3. Making sure the site is accessible with just the keyboard too, and fixing any code for the targeted functionality. 4. Cover any backlogs left, before the final Testing of the website.
Week 11 Mon 8/5 - Sat 8/11	1. Test the project's Docker environment for local development and GitHub Pages deployment. 2. Ensure seamless deployment of the site on GitHub Pages. 3. Test across different browsers and devices for compatibility.
Week 12 Mon 8/12 - Sat 8/18	1. Document Docker setup, configurations, and development process. 2. Check final Documentation within the codebase for future maintainability. 3. Fine-tune any remaining issues or optimizations. 4. The main project goals are completed till this period.
Week 13 Mon 8/19 - Sat 8/25 (Final eval due 9/2)	1. Discuss the final evaluation with the project mentor. 2. Prepare a project report that shows the work done till week 12. 3. Document all the progress made in my GSoC documentation about GSoC'24 journey.

Post work program - September **{Stretch Goals}**	1. Set up Lunr.js and define the search index structure. 2. Design and integrate a search interface with input fields. 3. Implement real-time search functionality using Lunr.js. 4. Test, refine, and optimize the search feature for accuracy and performance. 5. Design new thumbnails for the resources listed on the CC resource archive website using canva or any other Graphic Design software. 6. Implement the new thumbnails on the resource cards. 7. Clearly document all of the code that is written in September. 8. Update these changes in my GSoC’24 journey documentation.
Post work program - October **{Stretch Goals}**	*User Interface for Resource Submission - with mentors guidance* 1. Create an HTML form in the resource submission page and style it according to CC aesthetics (font, colors). 2. Write Javascript code to get the form submission data and generate a file containing the data. 3. Use github API to automate the creation of fork and opening a pull request for resource submission. 4. Document the code changes clearly, showing each step and motive of each function. This task will require guidance from the mentor as we will have to deal with user GitHub authentication and security issues.
November 4, 2024	1. Discuss with the mentor about the final submission of all the work. 2. Prepare the final project report for submitting for the final evaluation round. 3. Document this complete journey in the GSoC’24 Doc site.

Also see Google Summer of Code Timeline | Google Developers.

The stretch goals specified will be implemented after discussion with the mentor, after successful completion of the main goals of the project.

Skills / Projects

Skill name	Proficiency (1-5)	Where/how you’ve used this skill
HTML	5	In various projects, including the Portfolio Website
CSS	5	In various projects, Including Portfolio Website, Cinephile-PC
Jekyll	4.5	Learned about the SSG through youtube and Documentation. Making a Jekyll-based site to gain Practical Experience.
UI / UX design	4	Studied various Design schemes for websites, Color mixing and typography. (Awwwarded sites are great to find good designs)
JavaScript	4	Projects Including GSoC Doc Site, Cinephile-PC, Utility Website
Git and GitHub	4	An Open Source Contributor. Participated in OpenCode'23 to strengthen the concepts of git and github.
Canva	4	Made various designs for my Boxing Club in University.
React.js	3.5	Crafted a site to document GSoC journey GSoC Doc Site
Tailwind CSS	3.5	Crafted a site to document GSoC journey GSoC Doc Site
C++	3.5	Studied C++ for one year in University and Qualified one course on C language.

Experience and Contributions

Brief Description	Relevant Links	Additional Notes
MERGED / SOLVED		
Added the CC footer to the resource archive site.	PR #206	[CC] - Added 4,200+ lines of code, **Included Vocabulary in the codebase** of cc- resource-archive.
Fixed responsiveness for resource-navbar	PR #236	[CC]
Fixed Top padding issue for logo	PR #201	[CC] - Enhanced responsiveness for logo aligning in style.css
Changed button text and styling	PR #188	[CC] - Received continuous feedback from the maintainer until it was successfully merged.
Logo not aligned for smaller screens. (solved)	Issue #183	[CC] - solved the issue by PR#201
Change in text-selection color	Issue #47	[CC] - First contribution to Creative Commons.
Added whole frontend code	PR #16	Contributed **1000+ lines of code** for an open sourced project.
Removes additional bg color	Pr #357	First ever open source contribution. Contributed to CircuitVerse organization.
Side padding addition for small screens	PR #41	Responsiveness fix for National Resource for Network Biology website.
Added names and personal information	PR's 31, 39, 77, 84, 66, 84*, 73, 38, 12	To learn the basics of git and github, opened these simple PRs and all got successfully merged in a competition about open source.
tags-section Adding filtering tags	tags-section	At the time of making the proposal, I am working on the **tags-section** branch to add UI filtering Tags. The work became static as I focused more on the proposal, and will be resumed once I submit my proposal.

REVIEWS / ASSISTS / HELP		
Suggested optimization of JS code.	PR #83	
Suggested changes in logo designing of cc-resource-archive	Issue #210	
Reviewed PR #167 linked to the issue	Issue #110	
Explained about Internal Design System (Vocabulary)	Issue #210	
Guided about Opening a good PR	PR #193	
Suggested deletion of unwanted lines.	PR #193	

Future Plans

Post-GSoC 2024, I aim to maintain a collaborative relationship with Creative Commons. I am planning to contribute to different projects including topics like content licensing, open educational resources, and technology development. I intend to support Creative Commons' mission of fostering openness and innovation. My goal is to actively engage in initiatives that promote accessibility, inclusivity, and sustainability within the world of open knowledge, making meaningful contributions to the global open access movement.