Open Science Chain UI/UX Redesign

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Project Overview

OPEN SCIENCE CHAIN

Open Science Chain is a cyberinfrastructure that uses **consortium blockchain** to document and ensure the **provenance, authenticity, and validity of scientific data**. Users can **contribute** new datasets and scientific workflows, **search** through existing data and workflows, and add to the personal **watchlist**.

TASKING
- Evaluate the current Open Science Chain website and portal, drawing from computing knowledge and understanding of design principles
- Redesign the user interface to produce a convenient user experience that is comprehensible and aesthetically-pleasing
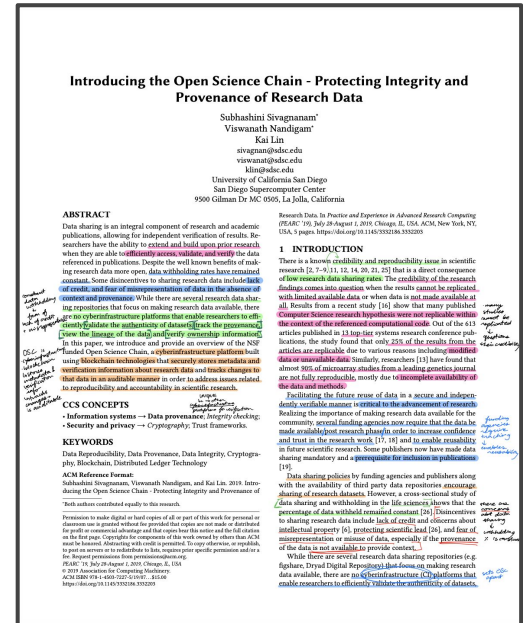
Understanding OSC

KEY TAKEAWAYS

Need for OSC
- Some studies have questionable credibility as results cannot be replicated
- Fear of lack of credit and misrepresentation with currently shared data

Relevance of Blockchain
- Credibility/accountability ensured by "append only" structure
- Consortium blockchain prioritizes scalability and security

Preliminary Website/Portal Review

Recreated usability testing/focus group structure
- Conducted first-look of website and portal with team
- Accurate representation of first-time user navigating website
- Allowed for identification of features to improve and highlight

Open Science Chain UX Feedback

PORTAL
General
- OSC logo in top purple bar is stretched out
- Could add *Contribute* subpage (redirects when you click on *Contribute*)
- Could add *My OSC* subpage

Search/Homepage
- Remove current "Data"/ "Workflow" titles on each card → Put large "Data" title in top left of *Recent datasets* section (do same with workflows)
- Add *Filters* button (for sorting by date, keywords, display settings, etc)
- Search results: bold + increase size of *Title*
- Remove Workflow/Data bubbles in search results → put "WORKFLOW" / "DATA" subtitles above results' titles
- Left-align *Details* button with text entries
- Make links clickable - only able to access through arrow button
- Title cards: Author, title, description
- Advanced search options - through title, description, author

My OSC - My Watch List
- Left align buttons with text entries
- Bold + increase size of *Title*

WEBSITE
Home
- Remove stock photos and replace with simplified design/icon for platform and portal → ex. Icon of tracking/connecting lines and icon of people collaborating/checkmarks to represent verification

About - Menu Bar
- Decrease width of *Citing OSC* tab under *Publications*

About - Student Projects
- Reduce spacing between title and content
- Make github links clickable

About - Events
- Update with content?
- Add spacing between event entries + format dates to be bold
- Add upcoming/past event sections

Resources - User Guide
- Redo picture in step #6 in registering data guide - screenshot pop-up in bottom of current photo

OVERALL *focuses more on UI/aesthetics, slightly lower priority
- Develop consistent color scheme between portal site and main webpage
- Identify fonts + make consistent across both sites (assign title, subtitle, main text fonts)
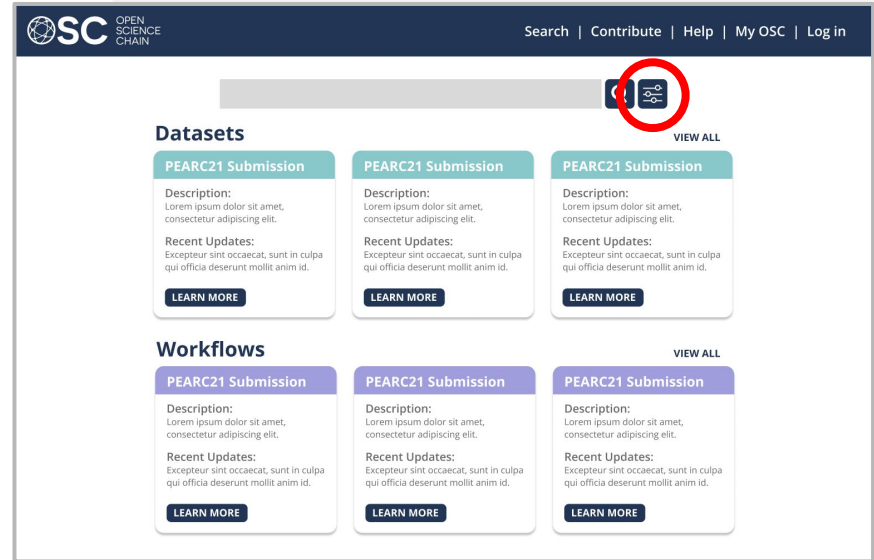
Website Features + Design Principles

Filter Button (next to Search Bar)

PURPOSE
Choose to display datasets and/or workflows, search for keywords in specific fields (contributor, description, OSC data)

80/20 RULE
Amplify the critical 20% of features being used 80% of the time → optimizes design, focuses resources and attention

Website Features + Design Principles

Information Icons

PURPOSE
Learn more about certain features and required entries, to be utilized in data/workflow contribution processes

LEVEL OF CONTROL
Users should exercise a level of control based on their proficiency and experience with the system → range of users is expanded

GESTALT PRINCIPLE OF PROXIMITY
Objects that are closer together are perceived as belonging together → inline help buttons with meaningful symbols improve usability

Website Features + Design Principles

Encompassing Design Principles (used site-wide)

CONTOUR BIAS
Objects with contours are favored over those with points → elicits positive emotional and aesthetic impression, avoids fear response from viewing sharp angles

CONSISTENCY
Similar parts are expressed in similar ways → improves usability, transfers knowledge to new applications

ALIGNMENT
All text elements and icons are left-aligned → contributes to readability and aesthetic

Homepage Comparison

PREVIOUS DESIGN

UPDATED DESIGN

Redundant
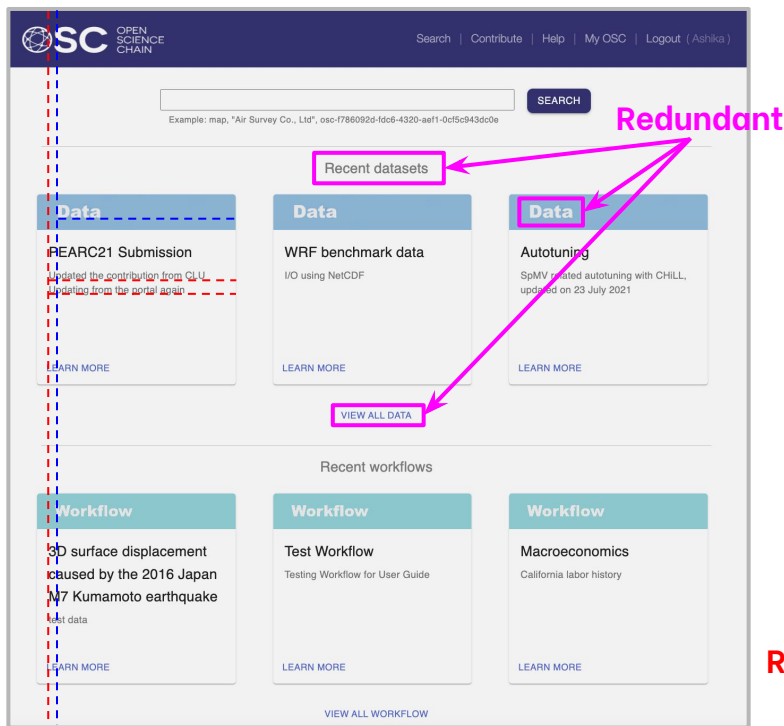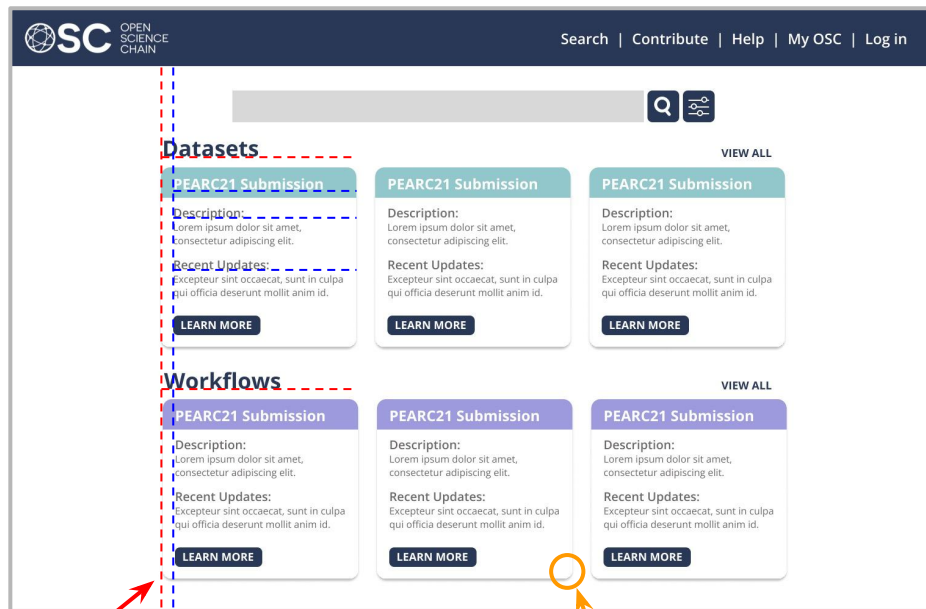
Related Entries
Alignment

Rounded Corners
Contour Bias

MY OSC: MY CONTRIBUTIONS (UPDATED)

MY OSC: MY WATCH LIST (UPDATED)

Related Entries
Alignment

General Layout
Consistency

Purple for Workflows
Consistency

Rounded Corners
Contour Bias

Looking Ahead

CURRENT IMPLEMENTATION

Visual Studio Live Server extension to test HTML files and visualize changes locally.

FUTURE CONTRIBUTIONS

Improve general **opensciencechain.org** website, reflecting changes from mockups.

Set up blockchain components and OSC portal locally to implement changes for portal website.

Thank You

MENTORS

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