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University of California Tableau User Group (UC TUG)

Hosted By:

UC Berkeley Office of Planning & Analysis (OPA)

October 12, 2018

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Agenda

- Introductions & Overview of Our Berkeley (**5 minutes**)
- Our Berkeley Display Architecture (**10-15 minutes**)
  - Portal page, GitHub, embedded Tableau
  - Transition from Public to onsite Tableau Server
- Visualizations (**10-15 minutes**)
  - Bump charts, mixing in D3
- Web Content Accessibility (**10-15 minutes**)
  - Basic Principles, Testing, Resources
- Q & A (**10 minutes**)
- Next Meeting & Close (**5 minutes**)

Introductions

- Russ Acker - Office of Planning & Analysis, Interim IR Systems Manager
- Noam Manor - Student Affairs Division, Data Analytics Manager
- Sara Quigley - Office of Planning & Analysis, Data Visualization & Research Analyst

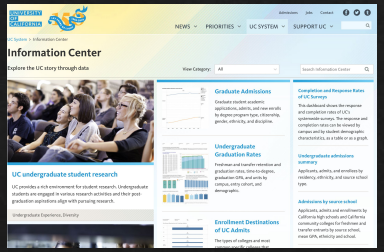
- *Our Berkeley* Data Digest

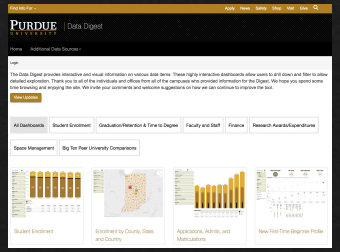
  Our Berkeley is a new public-facing website featuring data and narratives on the major dimensions of UC Berkeley. It currently contains 21 dashboards covering a wide variety of subjects, all developed and released in the course of the last year.

https://opa.berkeley.edu/our-berkeley

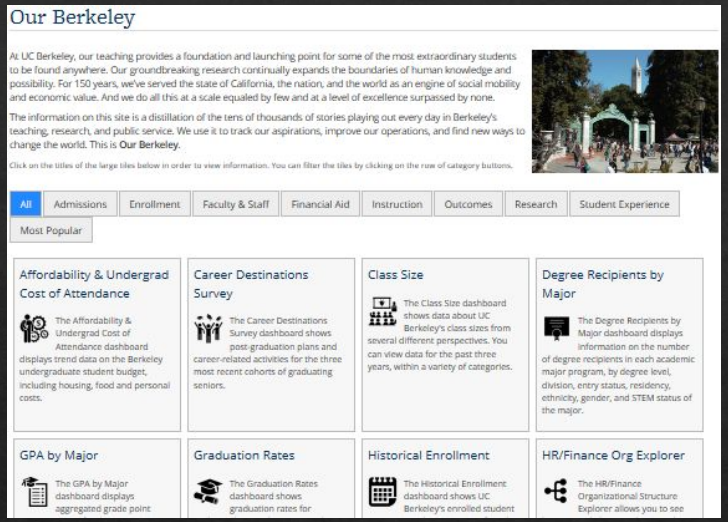
Beginnings of Our Berkeley

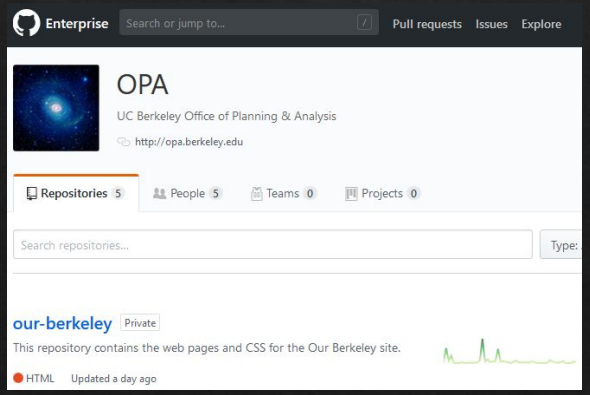
- One of Vice Chancellor-Finance Rosemarie Rae's strategic initiatives for 2017-18 was "Leveraging Data for Strategic Decision Making"
- Presentation on staff headcount for Academic Senate
- Goals for an interactive data digest
  - Authoritative, public-facing site for UC Berkeley data
  - Provide data that informs strategic priorities and tells the Berkeley story
  - Straightforward access to our data, with context
  - Transparency and consistency in data and narratives
  - Comparisons to peer institutions where appropriate
- Inspired by UC Info Center and Purdue University Data Digest





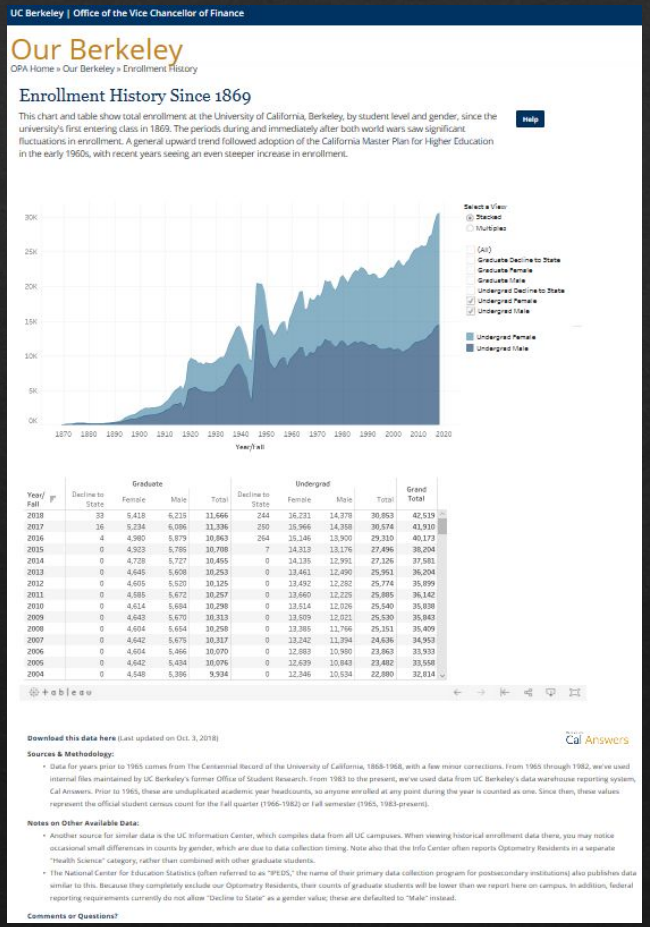
Our Berkeley Architecture Web





- Portal Page uses Drupal-based Open Berkeley
  - Easy to build & intuitive navigation
  - Can't put JavaScript in pages
- Berkeley now has a centrally-funded, on-premise, private instance of GitHub Enterprise
  - Can store lots of different kinds of code and data
  - Automatic version control
  - GitHub Pages allow for flexible display, but still Berkeley-branded

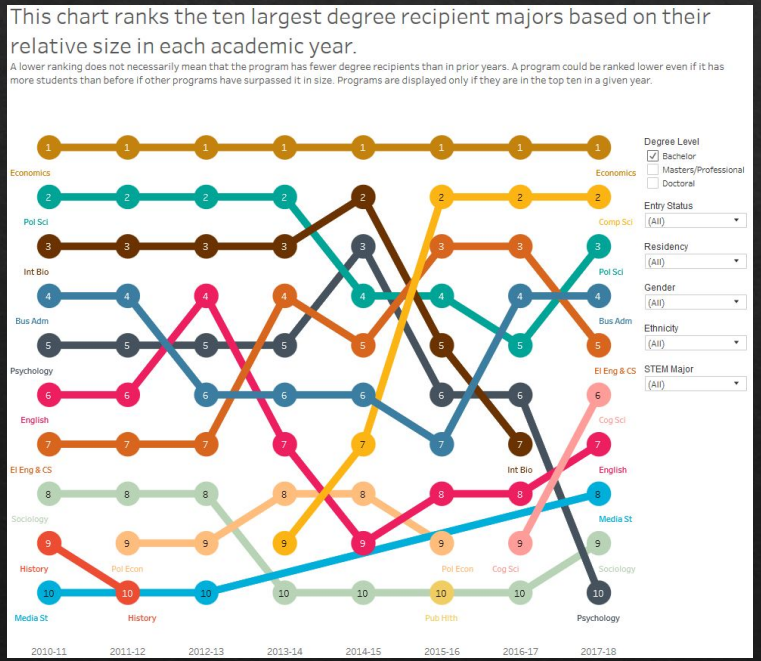
Our Berkeley Architecture Tableau



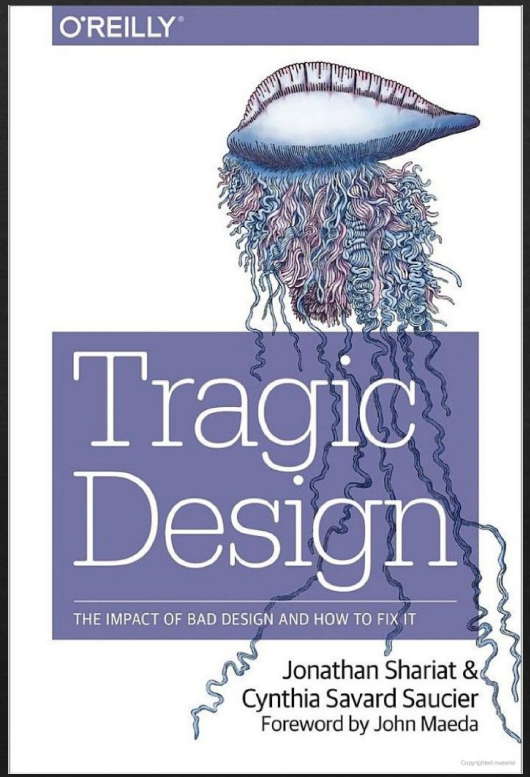
- GitHub Pages have embedded Tableau dashboards or embedded D3 code
  - Surrounding page has Berkeley Brand elements
  - Page also includes “Sources & Methodology” and “Notes on Other Available Data” sections
- Tableau Server
  - Currently using Tableau Public Server (aggregated data)
  - Will switch to on-site Tableau Server in Spring 2019

Bump Charts & Other Interesting Visualizations

- Where possible, we've tried to display data in visually interesting ways to maintain user interest.
  - Bump charts
  - Sankey diagrams
  - Packed bubble charts
  - Treemaps
  - Choropleth maps
  - Embedded D3



Web Content Accessibility



According to a US Census Bureau report, "About 56.7 million people—19% of the population—had a disability in 2010, according to a broad definition of disability, with more than half of them reporting the disability was severe."

https://www.tragicdesign.com/

Accessibility Principles

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Accessible Rich Internet Applications (WAI-ARIA) 1.1
W3C Recommendation 14 December 2017

This version:
https://www.w3.org/TR/2017/REC-wai-aria-1.1-20171214/
Latest published version:
https://www.w3.org/TR/wai-aria-1.1/
Latest editor's draft:
https://w3c.github.io/aria/
Implementation report:
https://w3c.github.io/test-results/wai-aria/
Previous version:
https://www.w3.org/TR/2017/PR-wai-aria-1.1-20171102/
Previous Recommendation:
https://www.w3.org/TR/wai-aria-1.0/
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Please check the **errata** for any errors or issues reported since publication.

See also **translations**.

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Abstract

Accessibility of web content requires semantic information about widgets, structures, and behaviors, in order to allow assistive technologies to convey appropriate information to persons with disabilities. This specification provides an ontology of roles, states, and properties that define accessible user interface elements and can be used to improve the accessibility and interoperability of web content and applications. These semantics are designed to allow an author to properly convey user interface behaviors and structural information to assistive technologies in document-level markup. This version adds features new since WAI-ARIA 1.0 [wai-aria-1.0] to improve interoperability with assistive technologies to form a more consistent accessibility model for [html5] and [SVG2]. This specification complements both [html5] and [SVG2].

This document is part of the WAI-ARIA suite described in the WAI-ARIA Overview.

Status of This Document

This section describes the status of this document at the time of its publication. Other documents may supersede this document. A list of current W3C publications and the latest revision of this technical report can be found in the W3C technical reports index at https://www.w3.org/TR/.

This is the WAI-ARIA 1.1 W3C Recommendation by the Accessible Rich Internet Applications Working Group. The Working Group created a WAI-ARIA 1.1 Implementation Report to demonstrate that the specification is implementable. A history of changes to WAI-ARIA 1.1 is available in the appendix.

To comment on this document, file an issue in the W3C aria GitHub repository. If this is not feasible, send email to public-aria@w3.org (comment archive). Comments received on the WAI-ARIA 1.1 Recommendation cannot result in changes to this version of the specification, but may be addressed in errata or future versions of WAI-ARIA. The Working Group may not make formal responses to comments but future work undertaken by the Working Group may address comments received on this document. In-progress updates to the technology may be viewed in the publicly visible editors' draft.

This document was published by the Accessible Rich Internet Applications Working Group as a Recommendation.

Please see the Working Group's implementation report.

- Make the page keyboard navigable
  - using **id**, **aria-label**, **role** and **tabindex** attributes
- Make **link text** meaningful and human-readable
- Leverage the **ARIA spec** to make the page work with assistive technologies.
  - ARIA = Accessible Rich Internet Applications

https://www.w3.org/TR/wai-aria/

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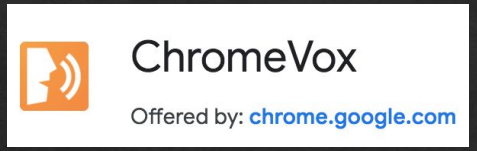
Accessibility Testing



- Test keyboard navigation and control
  - tab order, “skip to content” option
- Ensure that the narrative and the tabular data are accessible
- Tools
  - ChromeVox
  - VoiceOver
  - Web Accessibility Evaluation Tools List

https://www.w3.org/WAI/ER/tools/

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Tableau Embed Code

the <object> element attributes

aria-label

holds the narrative content

tabindex

provides keyboard navigability

id

provides a ‘skip to content’ target

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<div class='tableauPlaceholder' id='viz1521831076895' style='position: relative'>
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    </noscript>
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        'UC Berkeley"s total year-average campus enrollment is 41,000 students. Campus
        enrollment has grown by more than 16% over a 7-year period beginning in 2010. ...
        UC Berkeley has increased the number of undergraduate California residents and
        maintained a steady proportion of non-resident students, whose tuition dollars
        support all undergraduates.'class='tableauViz' id='viz1' style='display:none;'
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Next Meeting

- November 9th 2018
- Host – UC San Diego