

Usability Guidelines

Version: 2.0 beta (Mar 2020)

Audience: Discovery services, scholarly collaboration platforms, publishers and publishing platform providers

Contributors: GetFTR User Experience (UX) Steering Group

Quick browse to section

- [User Experience principles and practice](#)
- [Brand guidelines for the button / indicator](#)
- [Authentication](#)
- [Placement of the indicator](#)
- [States](#)
- [Onboarding users](#)
- [Article types](#)
- [File formats for full text articles](#)
- [Appendix - user research insights and key findings](#)

These recommendations provide guidance for discovery services, scholarly collaboration platforms, publishers and publishing platform providers for the implementation of the User Interface (UI) elements of Get Full Text Research (GetFTR), as well as recommendations on the optimum user experience.

Please note that these guidelines are subject to change and we are also looking to follow feedback from integrators. As it is an ongoing iterative process we are always learning how to best implement the user experience across multiple platforms. You can get in touch here <https://www.getfulltextresearch.com/register-your-interest/> or through the **'contact'** link on the website.

User Experience principles and best practice

User Experience principles

Specific guiding principles include:

- Reducing the number of steps required for the user to access the full text article
- An intuitive user workflow that helps guide the user to know exactly which articles they have access to, whilst reducing cognitive burden trying to find this information for themselves
- To create trusted recognition and consistency of use across integrator e.g. Discovery Service or Scholarly Collaboration Network platforms

Brand guidelines for the button / indicator

View the [asset use guidelines](#) (PDF)

Downloadable assets

Included in the zip file below is the following;

- **Stand alone indicators** - svg and png versions of the green and white indicators for both full text and the alternative version

[Download assets \(ZIP 155KB\)](#)

! Important: It is strongly advised to use the stand-alone indicator on a button which uses live text which is why an image of the button has not been provided in the assets link. This will ensure the text is reliably read out loud by screen readers, as well as benefiting those with low vision, visual tracking problems, and cognitive difficulties which affect reading, making it better for accessibility. Another important factor is to use the native HTML button which has better support by all user agents, assistive technologies, provides keyboard and focus requirements by default without the need for additional customisation.

Example code can be found below and further information can be found on the WCAG 2.1 accessibility guidelines here:

<https://www.w3.org/WAI/WCAG21/Understanding/images-of-text.html>

Authentication

Below are the authentication routes which can be implemented by the integrator:

1) **Deferred Authentication (federated authentication provided by institution):**

integrator implements institution lookup, user searches, and the institution provides authentication when the first article link is clicked on.

2) **Authentication (federated authentication provided by integrator):** scholarly collaboration platform / discovery service implements institutional lookup and authentication, using a Service Provider (SP) such as Shibboleth, either before or after a user performs a search.

3) **Authentication (institution remembered or pre-defined)**: if the user is already authenticated then they do not need to re-authenticate.

An alternative implementation is to leverage the work done by SeamlessAccess.org to enable **Single Sign On**. Users will be able to sign in using their institutional credentials, and will not be asked for them again for all Seamless Access-enabled sites.

4) **No Authentication**: Open Access and free articles do not require the user to select an institution or authenticate.

Deferred authentication (federated authentication provided by publisher)

This section describes the expected experience for a user who has not previously authenticated and whose institution (the Identity Provider (IdP)) is not known.

At this stage an entitlements check is made for the DOI(s) and institution but the user does not authenticate until the first Get Full Text (GetFTR) article link is clicked on.



Access PDF via institution

Button example

It is recommended that a tooltip is included on this button explaining to the user that **“you may not have access to this PDF”** as they might still not have access after they have selected their institute and authenticated.

If the institution is already set for example, under a profile page, then it is recommended to display the institution name on the button itself instead of the wording 'institution', as a display of trust that the user is from where they stated. In the case that this name is quite long it can be truncated providing it is clear which institution it is referring to.

[Access PDF via University of Oxfo...](#)

Button example with institution explicitly stated and truncated

Step 1: user performs a search and clicks on 'Access PDF via institution' (alternatively with the institution name stated) under each search result / abstract page, or a 'Find your institution' button displayed at the top of the page, (either before or after performing a search)

JOURNAL ARTICLE

Interaction design: beyond human-computer interaction

[Henderson, A, Smith J et. al](#) [See more](#)

Interaction Design Journal (2002), 19(7), 465-470

[Access PDF via institution](#)

Citation block example - unverified user

Interaction design: beyond human-computer interaction

| *title block - links to abstract page*

Henderson, A, Smith J et. al [See more](#)

Interaction Design Journal (2002), 19(7), 465-470

DOI: [10.1235/512987.584930](#)

[Access PDF via institution](#)

| *Call To Action button opens up institution selector*

*Citation block **annotated example** - unverified user*

Interaction design: beyond human-computer interaction

Henderson A

Ubiquity, vol. 2002, issue March (2002) p. 2

[Access PDF via institution](#)

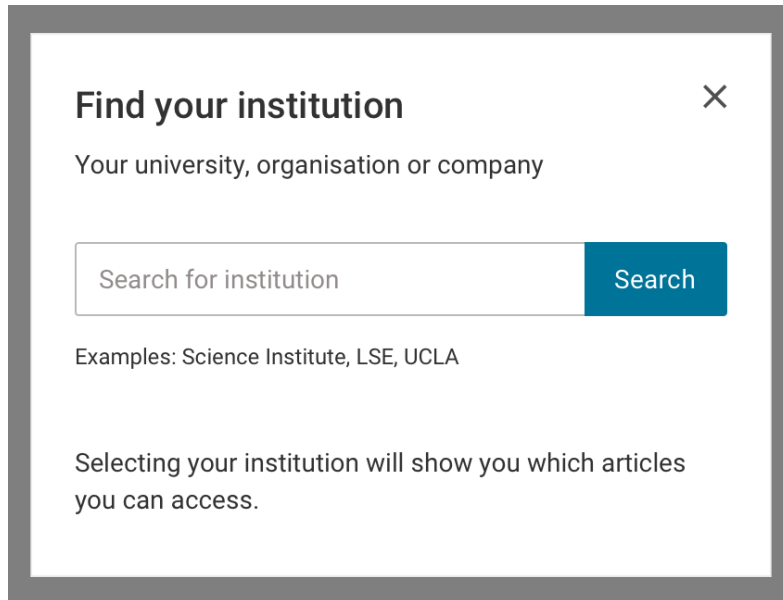
Example call to action button in the search results, this would display under each search listing

Select your institution to see which articles you can access

[Find your institution](#)

Example 'Find your institution' button for institutional lookup

Step 2: user inputs their institution



The screenshot shows a modal window titled "Find your institution" with a close button (X) in the top right corner. Below the title is the instruction "Your university, organisation or company". A search input field contains the placeholder text "Search for institution" and a blue "Search" button is positioned to its right. Below the search field, there are examples: "Examples: Science Institute, LSE, UCLA". At the bottom, a paragraph states: "Selecting your institution will show you which articles you can access."

Example of institutional selector

- Provide clear instructions on what to search for by labeling the search box for example; **“Find your institution”**, **“Add your institution”**, or **“Change your institution”** if they have already selected one. Including descriptive text below the heading is also recommended.
- Provide labeling that is available to assistive technology. Users need to be aware of control labels, headings, tips, and other content using screen readers. We recommend complying with the most current version of [WCAG Accessibility guidelines at the AA level: WCAG 2.1](#), or its subsequent versions.
- On page load, bring keyboard focus into the search field so that users can start typing and searching without additional hand movements or clicks.
- Provide type-ahead in the search field; users expect to see results when they type.
- Provide support for searching institution abbreviations, e.g., UCLA.
- Providing support for deriving institution from entered email domain is *optional*.



Search results display

Find your institution ×

Your university, organisation or company

Examples: Science Institute, LSE, UCLA

Selecting your institution will show you which articles you can access.

-  UCL University College
ucl.dk >
-  UCL (University College London)
ucl.ac.uk >

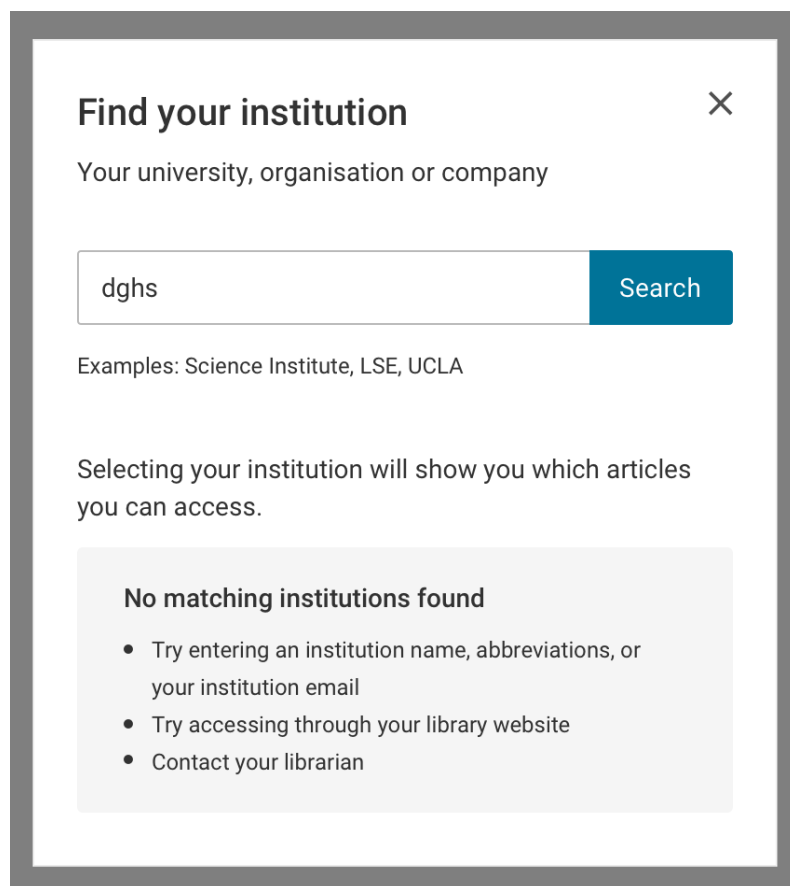
Example of a modal with drop-down suggestions

- Limit the number of displayed search results to what will fit in the visible frame. Users should not have to scroll through a list. If the number of matches from type ahead is too large to have reasonable confidence of a relevant match displaying near the top of the list (e.g., greater than 10), wait for users to type more characters before displaying the matches, or display a 'Show more results' option as in the example above.
- Display institution domain, in addition to the institution name, to show users that they will be taken to a different site. Let users know where they can find the list of institutions.

- Support accessibility by providing full keyboard support to navigate to the search result and select it. Provide a visible “on focus” style for all elements so that users know when elements are in focus. Provide information about the number of search results to assistive technology. Users need to be able to learn about dynamically changing results using a screen reader. (e.g., “Five institutions found matching New York. Use Up and Down arrows to move through results.”)

Error handling

Below is an example of how a search interface could handle errors and provide feedback to a user.



The screenshot shows a search interface titled "Find your institution" with a close button (X) in the top right corner. Below the title is a placeholder text "Your university, organisation or company". A search input field contains the text "dghs" and a blue "Search" button is to its right. Below the input field, there are examples: "Examples: Science Institute, LSE, UCLA". A paragraph of text reads: "Selecting your institution will show you which articles you can access." Below this, a light gray box contains the message "No matching institutions found" followed by a bulleted list of suggestions: "• Try entering an institution name, abbreviations, or your institution email", "• Try accessing through your library website", and "• Contact your librarian".

Example of feedback to the user

- When there are no matches, provide a helpful message instructing users on next steps that may lead to success.

! Important: Assistive technology needs to be aware of the message. Users need to be able to learn that no matches are found using a screen reader.

Step: 3 The button changes to **'View PDF'** or the link is displayed with the embellished result (see [placement of indicator](#))

JOURNAL ARTICLE

Interaction design: beyond human-computer interaction | *title block - links to abstract*

Henderson, A, Smith J et. al [See more](#)

Interaction Design Journal (2002), 19(7), 465-470

DOI: [10.1235/512987.584930](#)



| *Call To Action changes to 'View PDF'*

Annotated example of the call to action button 'View PDF' with the filled in icon if the user is entitled to the article

If the user is not entitled and the publisher has provided an Alternative Version (AV) then the below should be implemented instead.



'View PDF' example if the user is not entitled and the publisher has provided an alternative version

Step 4: Authentication

When the user clicks on the button or link for an article, which is not Open Access or a free article, they are then taken to an authentication page provided by the institution.

If the user authenticates and they are not entitled and no Alternative Version (AV) has been provided then '**Get PDF**' with no indicator is displayed instead. Alternatively if this is a text link then there would be no indicator next to the title. This would follow the existing route of hitting a paywall for that article on the publisher's site. Please see the ['No state'](#) for further details.

Authentication (federated authentication provided by integrator)

This section describes the expected experience for the user who has performed an institutional lookup and authentication on the integrators platform using a service such as Shibboleth, or OpenAthens, either before or after performing a search.

Step 1: user selects their institution using institutional lookup, either before or after performing a search. If using [SeamlessAccess](#) Single Sign On (SSO) then this is via an 'Access through your institution' button.

An example of Seamless Access being used in practice can be found here:

<https://bestpractice.bmj.com/login> which uses [OpenAthens Wayfinder](#)

Step 2: user inputs their institution

Find your institution ×

Your university, organisation or company

Examples: Science Institute, LSE, UCLA

Sign in via your institution to see which articles you can access.

Example of institutional selector



Search results display

Find your institution ×

Your university, organisation or company

Examples: Science Institute, LSE, UCLA

Sign in via your institution to see which articles you can access.

	UCL University College ucl.dk	>
	UCL (University College London) ucl.ac.uk	>

Example of a modal with drop-down suggestions

Please note the change of wording to 'Sign in via your institution to see which articles you can access'.

Step: 3 The user authenticates via their Institution Identity Provider (IdP) using a SAML based Service Provider (SP) such as Shibboleth or OpenAthens.

Step: 4 The search results are embellished with their access (see [placement of indicator](#))

JOURNAL ARTICLE

Interaction design: beyond human-computer interaction

| *title block - links to abstract*

Henderson, A, Smith J et. al [See more](#)

Interaction Design Journal (2002), 19(7), 465-470

DOI: [10.1235/512987.584930](#)



| *Call To Action changes to 'View PDF'*

Annotated example of the call to action button 'View PDF' with the filled in icon if the user is entitled to the article

Authenticated (institution remembered or pre-defined)

This section describes the expected experience for a user whose institution is known (remembered or pre-defined). If the user is already authenticated then they do not need to re-authenticate.

Step 1: Display the institution provider with an option to change / remove this affiliation

Your institution: University of Oxford

Change your institution

Your institution: University of Oxford [Remove](#) | [Change](#)

Examples of institution display

If using Seamless Access then the instructions on how to display the seamless access button can be found on the site here: <https://thiss.io/integration/>

Users should have the opportunity to find another institution (e.g., if they have multiple Identity Providers (IdPs), or have moved to a new institution) or to remove or change the previously used institution.

Step 2: Active session with Identity Provider (IdP)

If users still have an active session with their Identity Provider (IdP), they should be able to by-pass the institution login step and gain immediate access to the full article / other resource, if available through their institution. They should be able to instantly see the results embellished with their access.

In this scenario, if using [Seamless Access](#) single sign on (SSO), when a user accesses a second Service Provider (SP) page (e.g. on another publisher's site), that SP uses the known institution to direct authentication calls to the correct Identity Provider (IdP), without requiring the user to re-identify their institution to the new provider. If users no longer have an active session with their Identity Provider (IdP), they will be redirected to their institution login page and asked to re-authenticate.

Interaction design: beyond human-computer interaction

Henderson A

Ubiquity, vol. 2002, issue March (2002) p. 2



Example of a search result for a full text article which the user has access to

Placement of the indicator

The indicator can be used as a standalone icon either next to the button or the article title. Alternatively the icon can be placed within the button.

If an existing article link in the user interface (UI) is being overwritten with a GetFTR link then the indicator should be used. If a new link is added then the button should be used instead. In some instances links cannot be overwritten as they lead to abstract pages.

The stand-alone indicator should not be placed adjacent to a button as this causes a disconnect between the call to action and the indicator of access type.

The recommendation for the optimal user experience is to overwrite the existing links with the indicator next to it with GetFTR links, alternatively new links can be added. The GetFTR link can be added wherever there is a DOI for example, search results, abstract pages, saved articles / library.



Button example

 View PDF

If a user has access to the article then the wording dynamically changes to 'View PDF'

View the [asset use guidelines](#) (PDF)

[Download assets \(ZIP 155KB\)](#)

Option 1 - if a new link is added

Interaction design: beyond human-computer interaction

Henderson A

Ubiquity, vol. 2002, issue March (2002) p. 2

 View PDF

Button call to action example if a user has access to the full text article

Option 2 - if an existing article link is being overwritten

Interaction design: beyond human-computer interaction

Henderson A

Ubiquity, vol. 2002, issue March (2002) p. 2

Indicator next to the title example if a user has access to the full text article

States

'Maybe state' - when the integrator is unsure whether the user has access to the full text article until the user authenticates

In the instance where the user might have access to the full text article (the '**maybe state**') for example, when a subscription is at department level rather than for the institution, and this check can only be carried out once the user has been authenticated, the green indicator should be used but with a different hover state. Please see the ['Onboarding users'](#) section for more details on the tooltip to display in this instance.

'No state' - when a user is authenticated but does not have access to the full text article

In the case that the user has authenticated and does not have access to the full text article (or this is unknown), which could be because the publisher is not participating in GetFTR and is not providing an Alternative Version (AV), then the user will follow the current existing route of hitting a paywall for that article on the publisher's site.

In this instance it is recommended that the call to action button wording is changed to 'Get PDF' to reflect this state. Or if no button is provided then this would be an article link without an indicator.

Interaction design: beyond human-computer interaction

Henderson, A, Smith J et. al [See more](#)

Interaction Design Journal (2002), 19(7), 465-470

DOI: [10.1235/512987.584930](https://doi.org/10.1235/512987.584930)



Example of the call to action button 'GetPDF' if it is a no (or unknown state)

The Psychology of Human-Computer Interaction

Huesmann L, Card S, Moran T et al. [See more](#)

The American Journal of Psychology (1984), vol 97, issue 4, p. 625

Example of a search result when no call to action button is provided, that links to the publisher site from the article title

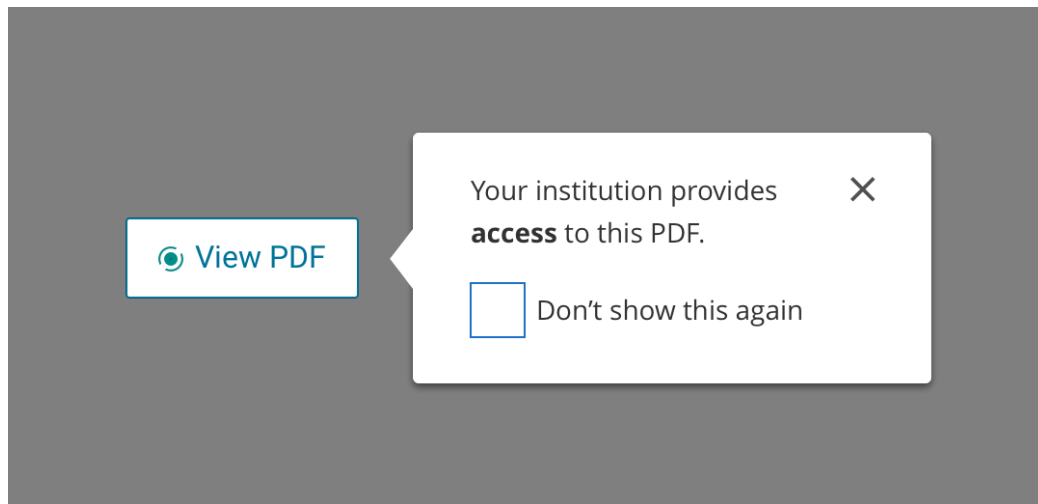
Onboarding users

Contextual onboarding (also known as just-in time) adds additional information regarding the level of access, and further explanation as to what the alternative version means which cannot be easily conveyed from an icon alone. These are also known as coach marks, tooltips and guidestones and provide an interruptive experience.

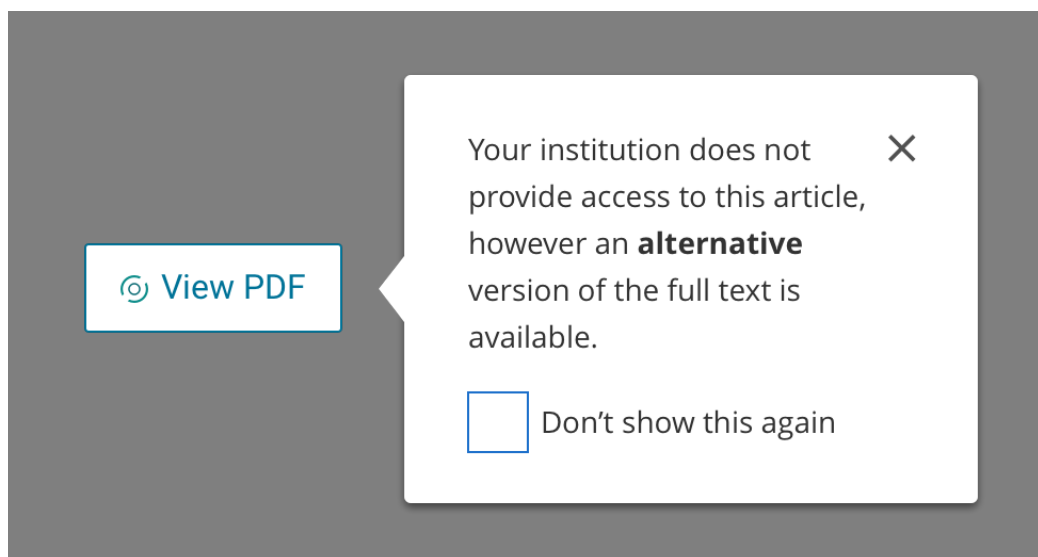
Tooltips as part of an onboarding flow

These are focused tooltips which target the user's attention on one single message at a time. It uses instructional overlay to explain the meaning of the icon for an unfamiliar interaction before the user interacts further with the interface.

Contextual onboarding - tooltips



Example of onboarding and wording for an entitled user

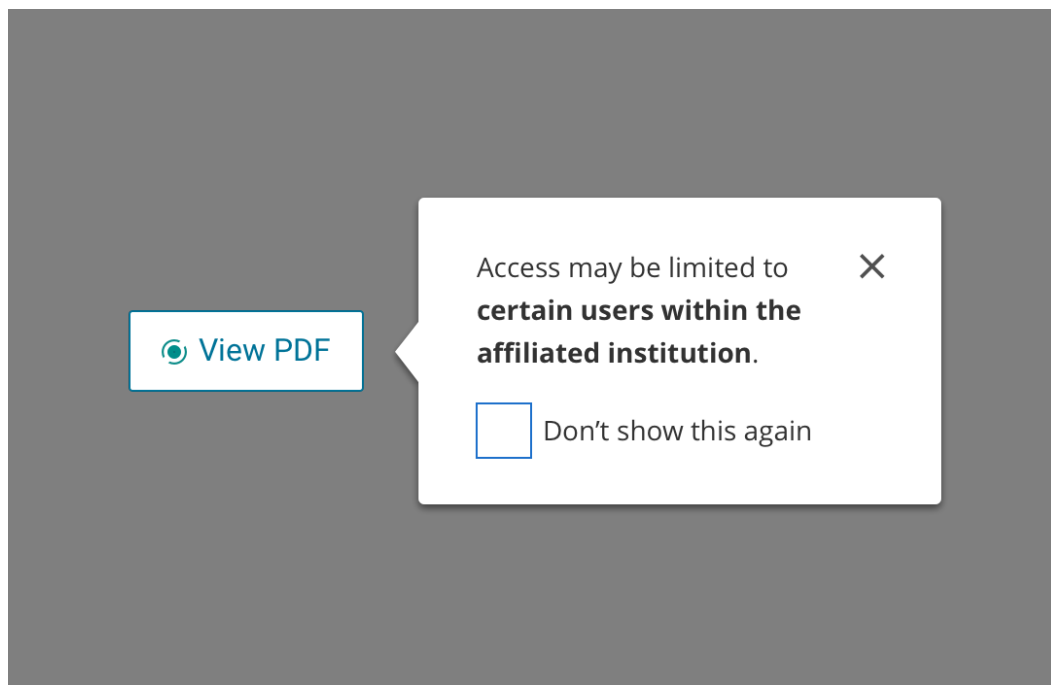


Example of onboarding and wording for the alternative version - when a user is not entitled, and a publisher has provided this

In the scenario where the user enters their institution (deferred authentication), and is then taken to the Identity Provider (IdP) authentication page straight away to authenticate, it is recommended to use the wording “You may be prompted to **login** with your institution to access this PDF”.



Example of onboarding and wording for an entitled user who has not yet authenticated

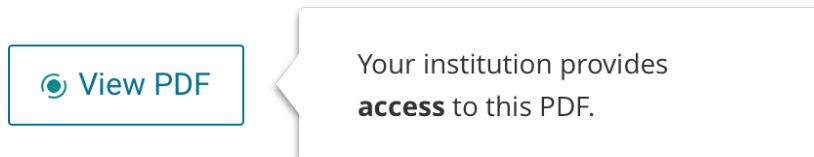


Example of onboarding and wording for the 'Maybe state' - where the user might have access but it is unknown until they authenticate.

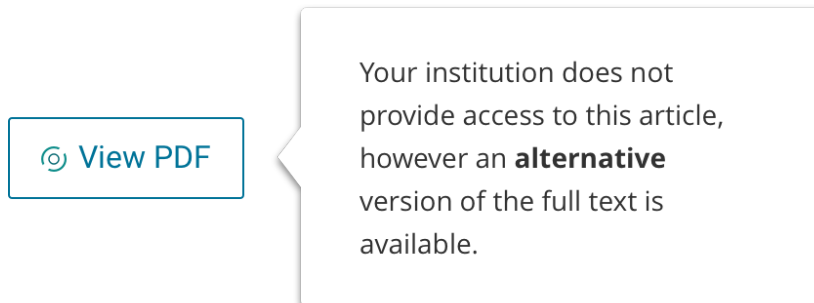
- Guide users to one element or action at a time, avoid explaining too much of the obvious. Provide brief and helpful information inside the tooltip.
- Allow users to select a 'don't show this again' option, as well as only serving this up for the first 2-3 times maximum when a user visits your site or platform
- Do not cover up poor design decisions by bombarding users with lengthy instructions, or a barrage of tooltips
- Do not use tooltips for information that is vital to task completion
- Support both mouse and keyboard hover for greater accessibility
- Use consistently throughout a site / platform
- Allow for sufficient contrast between the text and the background of the tooltip for example, a white page with a light-grey tooltip is difficult to read by users with visual impairments. There are various contrast checkers online such as [WebAim](#) which can help to ensure that this meets the minimum AA standard of compliance for accessibility.
- Position these so they do not block any related content within the interface, and use arrows when there are multiple elements nearby to indicate which icon the tooltip is referring to.
- Tooltips are a last resort when space is a premium, it would be recommended to use labels and upfront information wherever possible

Tooltips that appear on hover

These are tooltips which appear when a user hovers their mouse over the button (if viewing on desktop) to provide additional meaning of the icon and are always available in the interface.

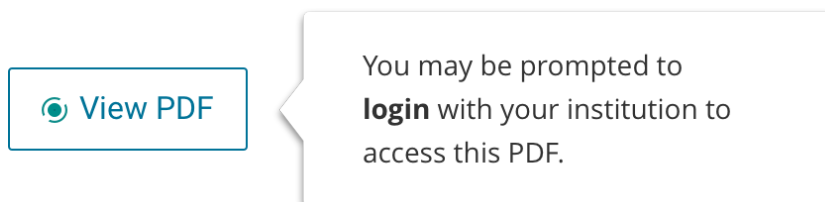


Example of tooltip wording for an entitled user



Example of tooltip and wording for the alternative version - when a user is not entitled, and a publisher has provided this

In the scenario where the user enters their institution (deferred authentication), and is not then taken to the Identity Provider (IdP) authentication page straight away to authenticate, it is recommended to use the wording "You may be prompted to **login** with your institution to access this PDF".



Example of tooltip wording for an entitled user who has not yet authenticated

 View PDF

Access may be limited to
**certain users within the
affiliated institution.**

Example of tooltip wording for the 'Maybe state' - where the user might have access but it is unknown until they authenticate.

! Important: To ensure that tooltips are accessible by screen readers use [aria-describedby](#) and the role="tooltip" as not all labels and descriptions work with elements unless you incorporate the role. The aria-describedby describes a programmatic relationship between the widget or groups, and the text. Please refer to the Accessibility Working Group's guidelines on using the aria-describedby property to provide a [descriptive label for user interface controls](#).

Tooltips and mobile

If using tooltips on your site or platform there are a few things to be aware of regarding implementation on mobile. For Android long press or focus gestures can be used to access tooltips. Please refer to the [Android Developer guide](#) for more information.

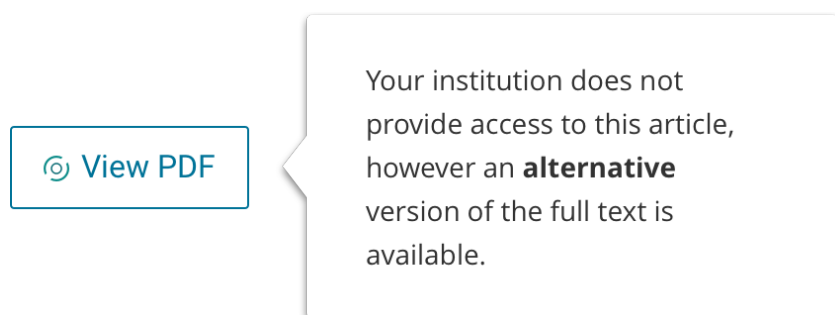
For iOS there is no straightforward way to implement a tooltip and the only solutions available are custom made, open source options created by individuals.

Article types

Alternative version (AV)

If a user is not recognised as an entitled user to the Version of Record (VoR) then an Alternative Version (AV) could be offered to deter users from visiting sites hosting unauthorised and less reliable versions of the content.

For publishers wishing to provide an Alternative Version (AV) of the full text article the format is down to the individual publisher. Publishers will each define their own Alternative Version (AV) variant which should be more than an abstract view, but not as enriched as the HTML or PDF Version of Record (VoR). This could be a flat, restricted PDF of the full text article, an abridged version, an author accepted manuscript (AM), on a preprint server, or nothing at all. In the instance of not providing an Alternative version (AV) this will be the existing route of the end user reaching a paywall (if not authenticated).



Example of tooltip wording for the alternative version - when a user is not entitled, and a publisher has provided this

View the [asset use guidelines](#) (PDF)

[Download assets \(ZIP 155KB\)](#)

Open Access

It is recommended if using an Open Access label that this is displayed either just as text 'Open Access' with / or without the lock icon, but not as a stand-alone indicator. The GetFTR indicator or button must appear any time an article is accessible to the user via the GetFTR API, this includes Open Access articles.

Users were familiar with Open Access and understood what this meant once they saw the associated label. The identification of Open Access needs to be understood by an audience who may not be experienced with scholarly and subscription content as stated in the [NISO guidelines](#) on access licence and indicators. These guidelines also suggest that clear identification of free-to-read content could help reduce time wastage as readers attempt to reach alternative versions. It is up to each site or system to determine how best to convey the status of Open Access content to their users.

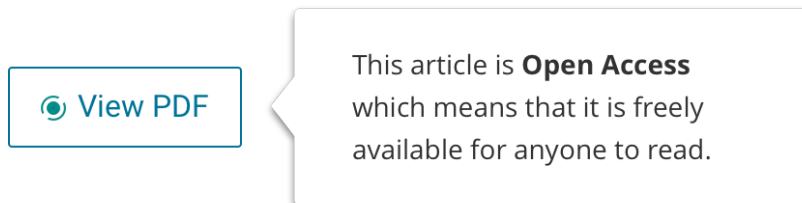
[Download open access lock icon \(ZIP 4KB\)](#)

OPEN ACCESS

Interaction design: beyond human-computer interaction

Henderson A

Ubiquity, vol. 2002, issue March (2002) p. 2



Example of a search result with Open Access stated and wording for the tooltip

Free article

Publishers can make articles free either temporarily or permanently, this is not Open Access and is the Version of Record (VoR).

FREE ACCESS

Interaction design: beyond human-computer interaction

Henderson A

Ubiquity, vol. 2002, issue March (2002) p. 2



Example of a search result with Free Access stated and wording for the tooltip

File formats for full text article

When linking to the **Version of Record (VoR)** of the full text article it is upto the integrator to decide whether to provide this as a **PDF** or link to the **HTML** version.

The recommendation from testing with users would be to provide the VoR as a PDF. Users preferred to download the PDF version for the following reasons;

- Easy to download and print
- Highlighting of text
- Easier to scroll
- Images display better on a PDF

Appendix

User research insights

The recommendations in the document are informed by best practice research as well as multiple rounds of usability testing with a target audience of representative users.

The goal of this research was to understand the source of frustration and challenges users encounter when they are presented with barriers to access full content in the midst of their research process, to test different solutions for removing and minimising those challenges, and provide an informed optimum user experience and recommendations.

Key findings

This section provides a summary of key findings and insights from multiple user studies that informed the design of the user experience and recommendations in this document.

Minimising cognitive load by providing authentication at the point at which users wish to access content

During the user testing the majority of users ignored the 'Find your institution' button which was displayed above the search results in a top ribbon, preferring '**Access PDF via institution**' included on either the search results, or the abstract page, as clearer wording for the call to action. This was a result of users favouring performing a search to find an article of interest before selecting their institution, however some preferred to select this upfront.

If displaying Get Full Text links on both the search results and the abstract page then it is recommended to display both the 'Find your institution' at the top of the page, and 'Access PDF via institution' by the article title. This is to allow the user the option to either select their institution and then search, or perform a search and then select their institution.

Deferred authentication

The two step process of selecting an institute and then authenticating was less desirable for users when testing this. Allowing the user to authenticate straight away after selecting their institute could help to mitigate this.

Consistency and standards for the call to action

During user testing different variations on wording were tested and '**View PDF**' was the preferred choice. Alternatives tested were 'Get PDF', 'Get Full Text Research' and 'View online'.

'View' suggested to users that they would see the PDF straight away, whereas 'Get' indicated there was an extra step, and 'View online' caused confusion as it was not clear enough.

'**Get PDF**' is true of the 'no state' and this would be a good use case scenario for using this wording for the call to action, when a user has authenticated but still does not have access (or this is unknown), as it ensures the user is not misled into thinking that they definitely have access to the PDF.

Recognition and recall for access indicators and tooltips

The majority of users did not understand the meaning of the icons but could make an educated guess that the filled in icon indicated access. After testing both tooltips and a popover for further explanation of these it was found that the tooltips were largely found by accident.

Labels were also tested but found to add additional clutter to the interface, although they do provide upfront clarity as to the level of access.

When testing with users the tooltip was described as “annoying”. Users liked the more interruptive in-context on-boarding experience and thought this could work well for first time users for the first couple of times. It was suggested that it would be an irritation for users who are already familiar with the site or platform so it is important to allow the option to not view again, or only show for the first 2 or 3 times the user visits (or both).

Recognition of Open Access

When testing two different alternative versions of Open Access; one with just the icon and an alternative with a label and icon, the former was ignored by users and caused additional confusion over why the article was available when no institution had been selected.

Placement of the indicator

User testing found that users were more likely to click on a link with this indicator next to it, and in the majority of cases they clicked on the button call to action over the title link.

There was a strong preference for the button, although some users stated that they preferred the indicator next to the title and just wanted access from the article title in the search results page.

Users will click on the links regardless of whether the indicator is there or not but overall users saw the benefits of the embellished links.

File formats for full text version

'View PDF' leading to a PDF version of the full text article, and 'View PDF' leading to the HTML version of the full text with the option to download the PDF were tested with users.

Whilst users generally preferred to access the PDF straight away they did not mind being taken to the HTML version either as they were used to this page layout and it would not act as a deterrent. This was however a less preferable option in terms of creating an additional step to access the content.