Universal Viewer

Text and Search

These slides: bit.ly/uvtext

Göttingen UV Workshop

Common use cases for the UV (especially from NLW and BL)

Some starting points from <u>github.com/UniversalViewer/user-stories</u>:

- Displaying transcribed or translated text
- Providing access to more content of the object
- <u>Content Search UI recommendations</u>

This slide deck contains many useful resource links, including many prepared for UVCON 2018.

These slides: bit.ly/uvtext

Context

Stanford's <u>design proposals</u> for the Universal Viewer in general

Universal Viewer <u>design principles</u> (topic for discussion?)

Stanford's <u>proposals for Search</u> in particular

National Radio Archive (BL) requirements

British Library UV Phase 3 requirements

National Library of Wales requirements

What do we want to get out of this meeting?

An agreement from BL, NLW and Stanford what to build for text and search

Decision - do we take the Stanford design direction for UV4, and is UV4 the BL's next phase (aka UV Phase 3)? It's a big jump.

Everyone happy with the UV's proposed treatment of textual content **of** the object and **on** the object, for **viewing** and **searching**.

A starter for a design that can be built.

A commitment to *user testing* these <u>designs</u> as we go.

These slides: bit.ly/uvtext

What do we want to get out of this workshop?

An understanding of some common design challenges for the UV as a coherent user experience across more and varied content

Sharing of current thinking with the wider community

Encourage further discussion on GitHub user stories, and Slack

These notes were produced from Jennifer's work, for sharing and commenting.

Stanford Design Proposals

Lines, margins, and contrast differences are eliminated wherever possible, to reduce visual noise.

Single item

Summary: reduce clutter, calls-to-action for simple presentation

(see doc for more)

AERIDIONALE ET

Image manipulation tools are stacked in a row on the right, rather than scattered across

the image. The shadow background is full height to create an unbroken line, rather than multiple small

Border/controls can appear when the image is in focus, or be static/always visible.

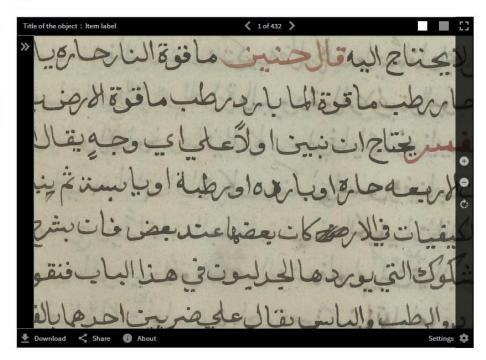
Object- and viewer-level controls that open popups are at the bottom.

Multi-item, contents closed

Label of current item is added to the title bar.

Contents toggle is visible on the side, along with next/ previous navigation on the top.

Slight discomfort with placing the content toggle below the top bar, as I think it should be the first item in the tab order when it's present.

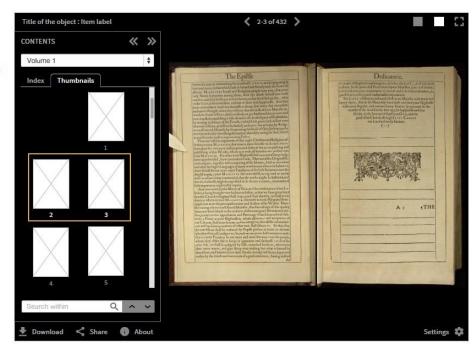


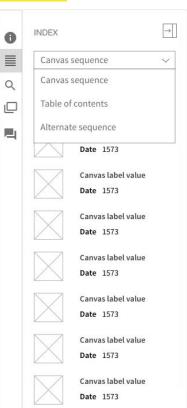
Multi-object w selector

If the viewer contains multiple objects, a selector is added at the top of the contents list, showing the currently-selected object.

Drop-down displays all the available objects. When user changes the selection, the contents list is refreshed.

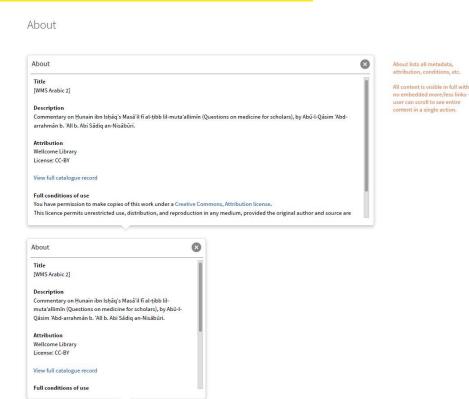
Note about visual design: the scrollbar should be styled generically so its purpose is clear and it doesn't have any apparent difference from other scrollbars (i.e. browser) on the same screen.





Mirador 3 design for comparison

See the already linked <u>document</u> for discussion of this information panel/dialogue (and panels in general), including contextual information (the contents of the metadata panel change in response to navigation actions elsewhere, and the user can't see this happening).



What are we talking about when we talk about the UV?

There are components that the UV uses, that could be used to compose other types of viewers.

- Low-level components and libraries like OpenSeadragon, and utilities
- Digital-object-specific, usually IIIF-flavoured, components and libraries

There is also the maintained build of the UV - highly configurable, but still a coherent application with a particular stance about user experience. This is the thing that gets user-tested, is ready for you to use on your site.

What are we talking about when we talk about the UV?

```
<uv data-iiif-content="https://example.org/my-manifest.json"></uv>
```

It's this UV that I'm talking about.

Design thinking needs to apply to a whole product, as used by BL, NLW, and others.

Universal Viewer Design Principles

The <u>design principles</u> emerged from UVCON and subsequent discussion.

They help us understand the differences between UV and Mirador

- UV is not a workbench
- UV is not a content creation environment (annotation tool)
- UV is encountered by passing users without any context (the default object viewer in a library catalogue, for example)
- UV is used by publishers to present objects to the widest audience as simply as directly as possible, rather than provided as a tool for users to work with

Search

What are users searching, and what are they searching *for?*

The UV's current user experience of search is for a special case. It assumes that:

- the object being searched is primarily a textual artefact, with many 2D image views (a book with many pages, with words on those pages).
- the text being searched is visible in the view(s) of the object (the UI can draw on the view to highlight the result(s) *as words*).
- search results are simple short text strings the results are the matches
- search results map closely to the query term(s); if I search for "cat" I get highlights of the word "cat" in the images of the text

None of these are *universal*; they are only one search use case. We need to take a step back and think about what is being searched.

Search Searchable Stuff Textual or Textish content

Show the textual content of the object

Don't search just yet... think about *showing*.

The *digitised printed book* origin of the UV's search UI means the UV's user interface doesn't deal with showing available text content, other than just rendering the image that contains the text. Additional UI is only concerned with locating and highlighting hits from full-text search operations.

What textual content is available that the UV could **show**?

First look at textual content of digital objects...

not search just yet!

So what kinds of textual content do digital objects have?

2015-2016 Full Year

Home

Syllabus

Assignments Discussions

Grades

Pages

People

Syllabus Export AnnotationsX

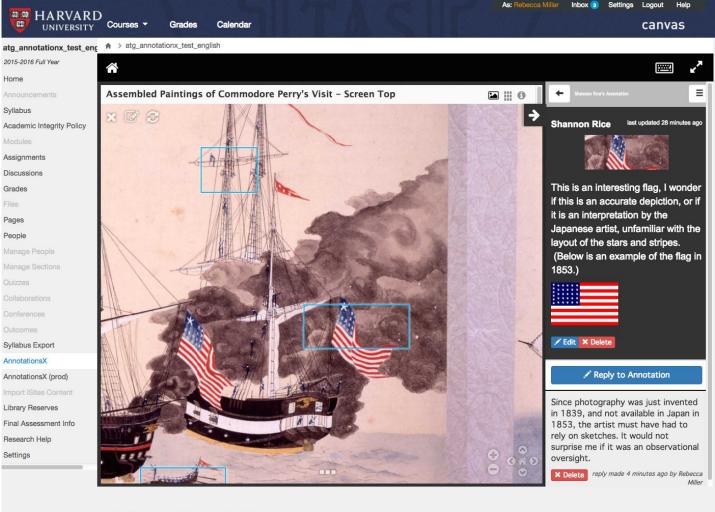
AnnotationsX (prod)

Library Reserves

Research Help

Settings

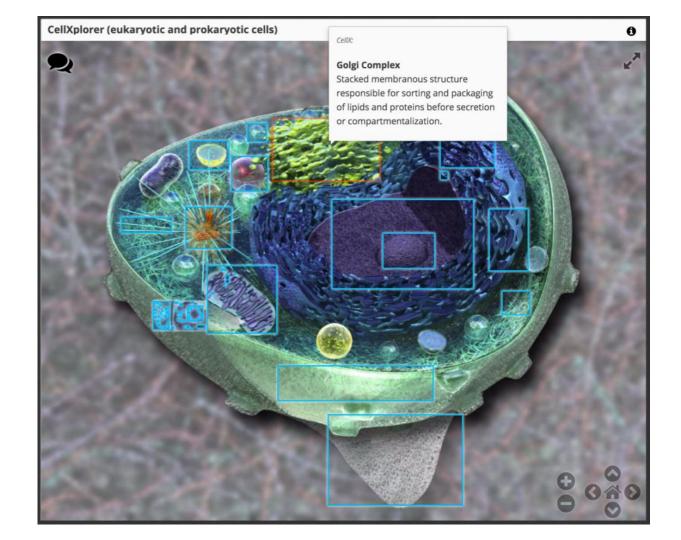
Rich text commentary on a painting



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Annotations for digital pedagogy



Outputs of crowdsourcing (part 1)

Queen



Whole photograph

Enter whatever information you have about this

What year was this photograph taken?

What is the exact date this photograph was taken? (DD/MM/YYYY) @

August 23, 1967 (click to edit)

Where was this photograph taken?



Describe the contents of this photograph. ②

Carnival float...

"description": "Charlotte was 14 in this photo. She grew up to be a local teache

Date of Birth

Date of Birth of the person identified.

27/07/1965

Occupation

Job title or occupation for the person identifie

Teacher

Description

Description of the person identified

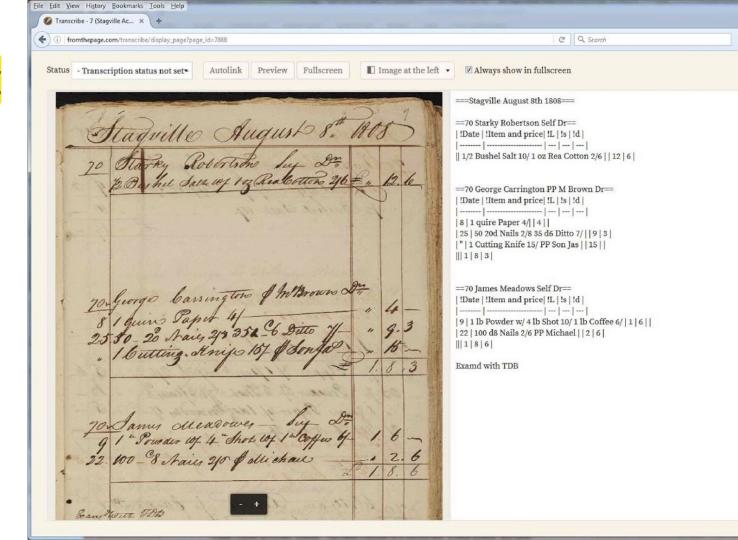
Charlotte was 14 in this photo but grew up to be the local teacher

```
"date": "1967-08-23",
"place": {
  "geometry": {
    "type": "Point",
    "coordinates": [52.994, 3.939]
  "description": "Carnival float..."
"name": "Charlotte",
"dob": "1967-07-1965",
"occupation": "Teacher",
```

Outputs of crowdsourcing (part 2)

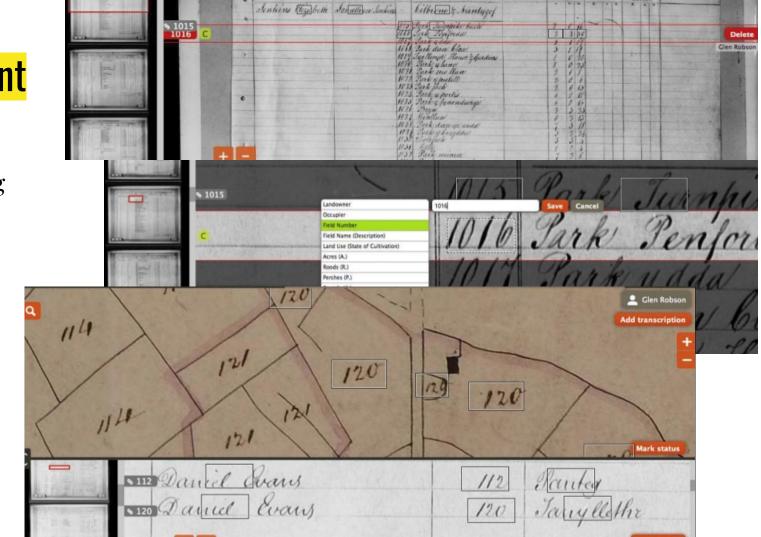
Content is whole page transcription, possibly with some markup.

There would typically be multiple views (pages) each with their own text



Outputs of crowdsourcing (part 3)

Content is structured data from table rows, linked to more than one view. The row data is also content **on** the map images.



Rendering lines of text; a book reader



großen Naturforschers aus Brünn, der die Wissenschaft vom Erbgut, die Vererbungslehre oder Genetik, überhaunt erst geschaffen hat...

Als Sohn eines deutschen Bauern wurde Johann Mendel am 22. Juli 1822 zu Heinzendorf in Österreichisch-Schlesien gehoren. Er hesuchte das Gymnasium in Troppau, studierte, da er sich dem geistlichen Beruf widmen wollte, an der Philosophisch-Theologischen Lehraustalt in Olmütz und trat im Jahre 1843 in das Brünner Augustinerstift ein. Der Novize erhielt den Klosternamen Gregor, und unter diesem Namen ist er unsterblich geworden.

Im Alter von 25 Jahren wird Bruder Gregor Diakon, und schließlich wird er zum Priester geweiht. Da er neben seinem priesterlichen Amt gern auch die Jugend erziehen will, versucht Gregor Mendel die Prüfung als Gymnasiallehrer abzulegen. Aber: Er besteht die Prüfung nicht - er fällt durch! Jedoch läßt er sich nicht enttäuschen. Als begeisterter Freund der Natur und Naturwissenschaft studiert er von 1851 bis 1853 Physik, Mathematik, Zoologie und Botanik in Wien. Man weiß nicht, ob Gregor Mendel beim zweiten von ihm unternommenen Versuch, die Gymnasiallehrer-Prüfung abzulegen, abermals durchgefallen oder ob er von der Prüfung zurückgetreten ist; bis zu seiner Wahl zum Prälaten ist iedenfalls der Mann, dessen Forschungen ein wahres Weltreich an Erkenntnissen erschlossen haben, nur Suppleant, also Hilfslehrer an der Oberrealschule in Brünn gewesen. Alle seine freie Zeit aber widmete er seinen Versuchen, hinter das Geheimnis des Erbguts zu kommen. Und als für solche Versuche besonders geeignet hatte er ganz gewöhnliche Erbsen

Das Gärtehen an der Mauer des Brünner Augustinerklosters, in dem der stille, freundliche Mönch ganz für sich allein seine Kreuzungsversuche unternahm, ist nur 35 Meter lang und 7 Meter breit. Aber diese 245 Quadratmeter sind wahrhaft historischer Boden im schönsten Sinne des Wortes, ehrwürdiger als alle Krönungsstätten und Schlachtfelder, denn hier wurzeln nicht nur grundlegende Erkenntnisse über das Geheimnis der Vererbung und damit des Lebens überhaupt — von hier aus nahm auch eine Wissenschaft ihren Ausgang, die der hungernden Menschheit vielfältige Ernte auf Böden schenken sollte, die gar keine oder vordem nur kümmerliche Frucht getragen hatten.

Gregor war unbeschwert von allen konfusen Vererbungstheorien vergangener Jahrhunderte und ging mit Unbefangenheit an seine Versuche. Er wollte an die Frage nach dem Erbgut, an die Frage, großer ANiaturforschers aus Brünn, der die Wissenschaft vom Erbgut, die Vererbungslehre oder Genetik, überhaupt erst geschaffen hat . . . Als Sohn eines deutschen Bauern wurde Johann Mendel am 22. Juli 1822 zu Heinzendorf in Österreichisch-Schlesien geboren. Er besuchte das Gymnasium in Troppau, studierte, da er sich dem geistlichen Beruf widmen wollte, an der Philosophisch-Theologischen Lehranstalt in Olmütz und trat im Jahre 1843 in das Brünner Augustinerstift ein. Der Novize erhielt den Klosternamen Gregor, und unter diesem Namen ist er unsterblich geworden.

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Rendering lines of text; a running transcript



Annotations	Track playe	er
14:06 - 14:07		
senses. Defenders say in a free		
14:07 - 14:10	:	i
society, responsible adults should	-	
14:10 - 14:11		
be allowed to spend their money as		
14:11 - 14:14	:	1
they see fit, provided they don't		
14:14 - 14:16	:	
hama akkana. Poskika wasanina akia		
	Filter	

(this content is identical apart from its dimension targets



But... for AV there is usually one view, and for "bookish" things, there are usually many views (pages).

inn, der die Wissenschaft vom Erbeut. etik, überhaupt erst geschaffen hat ... uern wurde Johann Mendel am 22. Juli eichisch-Schlesien geboren. Er besuchte studierte, da er sich dem geistlichen r Philosophisch-Theologischen Lehr-Jahre 1843 in das Brünner Augustinerden Klosternamen Gregor, und unter

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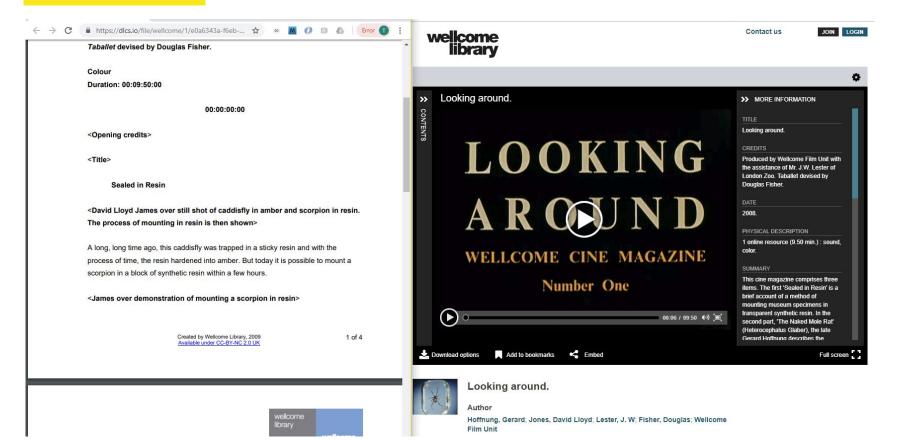
(Aside) Text Content under the hood

This text content is identical apart from its dimension targets.

One is a spoken phrase in AV, the other is a line of text in an image.

```
"id": "https://tomcrane.github.io/bbctextav/iiif/text-11",
"type": "Annotation",
"motivation": "supplementing",
"body": {
    "language": "de",
    "type": "TextualBody",
                                                                             Fragment is temporal
    "value": "Das macht die gesamte Problematik aus."
},
"target": "https://tomcrane.github.io/bbctextav/iiif/ID193615800/canvas#t=30.0,34.16
"id": "https://wellcomelibrary.org/iiif/b18035723/annos/contentAsText/a14t9",
"type": "Annotation",
"motivation": "supplementing",
"body": {
    "language": "de",
                                                                              Fragment is spatial
    "type": "TextualBody",
    "value": "Versuche unserer Freunde sind schöne Beispiele für dieses
},
"target": "https://wellcomelibrary.org/iiif/b18035723/canvas/c14#xywh=152,1261,2132,62
```

A static transcript (one textual body for entire view)



All these things are content that the Universal Viewer might be expected to convey, in some form, to the user. These are BL and NLW use cases: indicate the presence of richer content gathered from crowdsourcing and other activity; show the transcribed/OCRed text of the work.

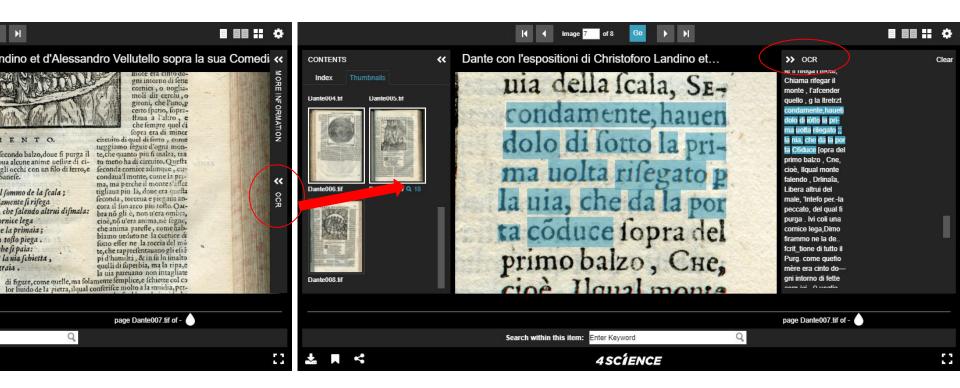
The UV cannot hope to understand the data models of specific crowdsourcing projects. But it might have a go at boiling them down to a textual representation and showing their relationships with spatial and temporal extents in the object.

The UV could recognise and render more straightforward textual transcriptions, and align them with user actions in the spatial and temporal extents (scrubbing, panning, zooming in the view; selecting text alongside). For time-based media, this is a National Radio Archive requirement.

The text view is part of the experience, along with the spatial and temporal view.

Can we generalise out from there to spatial content, and from there to complex structured annotation content rather than text lines? Can we maintain a UX consistency across radio broadcasts and tithe maps, or are they just so different that the UV has to choose between 2 or more UX approaches?

How do you get to this content?



One suggestion, see <u>live demo</u>

Getting to the content - comparison with Mirador 3

The <u>design approach</u> of Mirador 3 is a nice route to viewing annotation content where that content fits the pattern of a simple text model associated with part of the canvas.

(quick demo)

Questions / Discussion -

What if the annotations are 40 separate text lines? Or 600 separate words? What is the logical extension of this UI to simple lines of text annotations? To a reading experience?



Comparison with Mirador 3

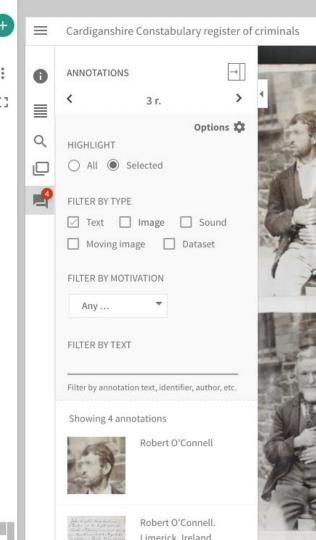
And, what's the relation of this *viewing* activity to searching? *Filter by text* is a **query** parameter on a search; *Filter by motivation* a **motivation** parameter.

We are searching within the current canvas, rather than a whole work - but the results would look the

same to the user. Identical, if one canvas.

For our phrase-level temporal or line-level spatial transcriptions, is *Filter* the same as search?

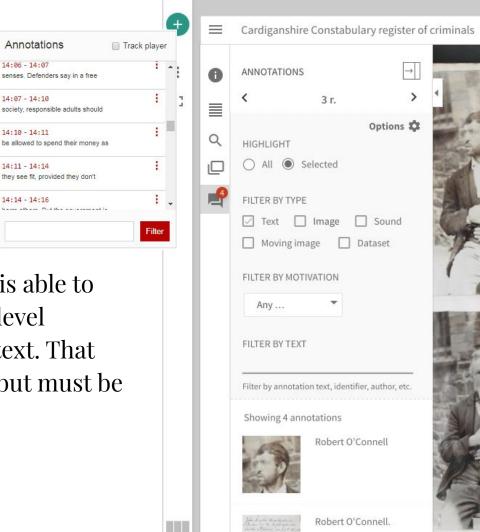




Comparison with Mirador 3

These things feel different from search within because our perception of it is skewed by the UV's implementation. Which is a special

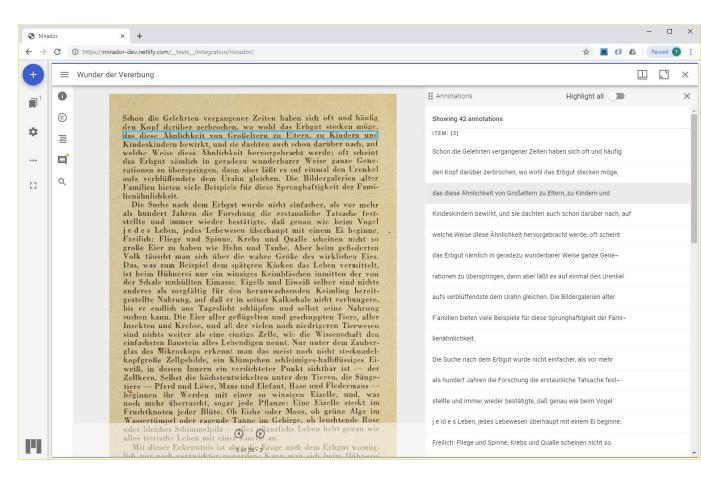
use case for scenarios where the server is able to return result-specific, on-the-fly word level annotations from large amounts of full text. That experience shouldn't be compromised, but must be *generalised*.



Limerick Ireland

Mirador 3

With some manipulation of the UI you can arrange Mirador 3 to show line level annotations in a *nearly* book-reading experience, but it doesn't naturally display like that; not quite the right affordance as text



Now, Search this stuff

Finding things in an object

If the UV is showing the textual content (from simplest text to structured annotations) then search is a filter of that content, **and/or** an indication of the matching content's location in the work (highlight on an image, marker on a scrub bar for location within a view, sparklines for location across views).

(Sparkline UI felt to be unnecessary).



A dynamic full text search is able to filter down to a single word. Other search services may not be able to do this, but there is a continuum of granularity (words, lines, paragraphs, structured annos, table rows, whole pages). And crucially the UV can't tell where on the continuum a particular search service is - it's annotations all the way down.

Textual content: independent variables

A work may have textual content (transcript, crowdsourced annotations) but no search service.

A work may have a search service, but not provide any text content for a viewer to show (*Places of Wales* is like this – <u>example</u>, <u>example</u>)

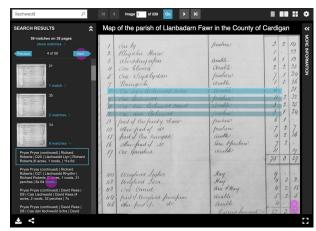
A work may have both (any Wellcome OCRed work); the UV can use the search but not (currently) show the text; it can't do this:

A work may have multiple sets of textual content, some of which are searchable... transcript, director's commentary, scholarly commentary, closed captions

Search designs 1

Updated search UI proposal from Stanford, after UVCON

- intended to be extension of current design language
- concerns about search CTA in footer
- could put it in a tab but that ties it to the content panel. Search button
 - could expose input field on click.
- Concerns about mobile version
- Experiments with white and black backgrounds
- Concern over sliding panel
- dependency on content panel



<u>Discussion</u> in Google Doc.

https://xd.adobe.com/view/67bo6847-2009-4045-6776-a247725990aa-1181/

Search Designs 2

UV Search, 'Fully panel-ized'

• Frees search from dependency on content panel, but problem: if there is a content panel you have to close search to get to its CTA

Q

- Suggestion vertically stacked icons □
- but: "It means you can't have Metadata and Contents open at the same time, though, and I think that came out as a requirement in London"
- How crucial is multiple panels? And does this really prevent that?
- And what about mobile?
- Relationship between overlays (dialogs) and panels (shift over)

Search Designs 3

- Conflicts between panel and popups: NLW Map
- Conflicts between panel and popups: a book
- User needs to be able to interact with the image/object as well as the results list, which made a panel seem like a necessity. "But I think it's possible to allow a popup to stay present without being modal"
- How does this relate to the textual content of an object?
- Still chevrons, which don't test well

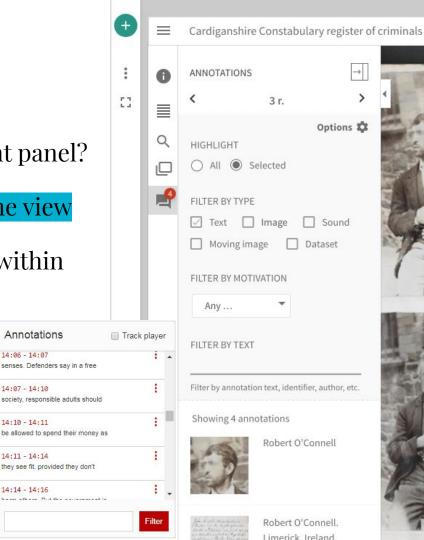
Search panel, content panel

Is *Search* something you do inside the content panel?

Crucial difference... this is filtering within one view

They are not providing navigation of results within the work, across views.

But for a single view (much AV), it's the same UX.



Annotations

14:06 - 14:07

14:07 - 14:10

14:10 - 14:11

14:11 - 14:14

14:14 - 14:16

If search panel is content panel

@jvine

This feels like we're back where we started, though, @tomcrane - with search enclosed inside another feature that may or may not always be exposed. If the textual content panel is fixed open, as in the screenshot, then it makes complete sense to search within that panel. But if the textual content is not exposed, where does search live, and how is it visible to the user? What happens in the NLW map use case?



Assumption to be challenged

• The UV offers a consistent, comfortable, familiar UI across different types of media. If I've used the UV to view a manuscript or printed book from a BL catalogue search result, I'll feel at home if I encounter the UV when looking at the National Radio Archive. My search activities on BL content feel like the same application, regardless of the content.

If this consistency is not a requirement, then the National Radio Archive doesn't need to use the UV. But I <u>think</u> it is required; reduction of viewers in the BL estate is not just a code/configuration management issue, it's a UX issue too.

Revisit.... What do we want to get out of this meeting?

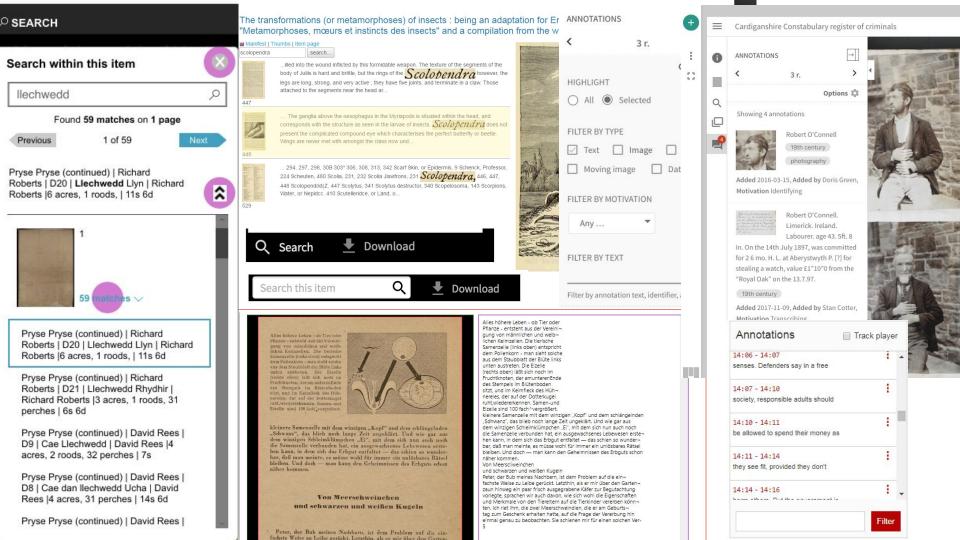
An agreement from BL, NLW and Stanford what to build for text and search

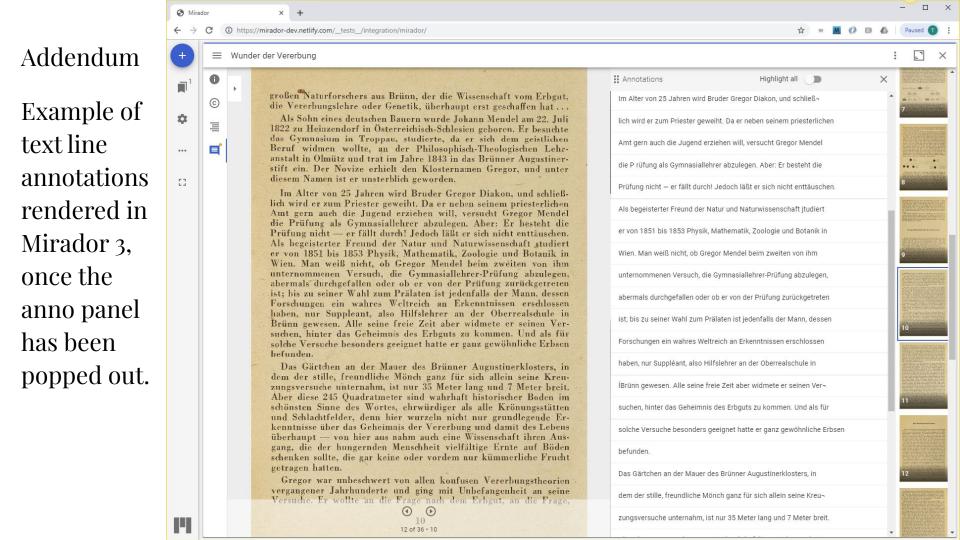
Decision - do we take the Stanford design direction for UV4, and is UV4 the BL's next phase (aka UV Phase 3)? It's a big jump.

Everyone happy with the UV's proposed treatment of textual content **of** the object and **on** the object, for **viewing** and **searching**.

A starter for a design that can be built.

A commitment to *user testing* these designs <u>as we go</u>.





Additional notes

(from the meeting) on following slides.

We are trying to decide

Where the search icon / indicator / link goes

Is the search box tied to the content display once search is triggered?

Where are search results displayed so people can navigate within the item?

Where are annotations displayed?

Next Steps

Value proposition work; jobs to be done - BL to lead; so what, now what

Start NRA work

- Transitional Approach using NRA requirements

Ask RNIB about WCAG-2 and accessibility

Search results are another filter on available content options

Search not filter

The transformations (or metamorphoses) of insects: being an adaptation for English readers of M. Émile Blanchard's "Metamorphoses, mœurs et instincts des insects" and a compilation from the works of Newport, Charles Darwin...





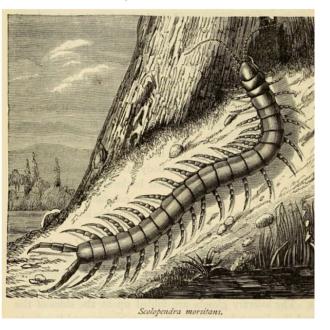
...illed into the wound inflicted by this formidable weapon. The texture of the segments of the body of Juliis is hard and brittle, but the rings of the **Scolobendra** however, the legs are long, strong, and very active; they have five joints, and terminate in a claw. Those attached to the segments near the head ar...

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.... The ganglia above the oesophagus in the Myriapods is situated within the head, and corresponds with the structure as seen in the larvae of insects. **Scolopendra** does not present the complicated compound eye which characterises the perfect butterfly or beetle. Wings are never met with amongst the class now und...

... 294, 297, 298, 30B 303* 306, 308, 313, 342 Scarf Skin, or Epidermis, 9 Schenck, Professor, 224 Scheuten, 480 Scolia, 231, 232 Scolia Jlavifrons, 231 *Scolopendra*, 446, 447, 448 Scolopendrid(Z, 447 Scolytus, 341 Scolytus destructor, 340 Scopelosoma, 143 Scorpions, Water, or Nepidcc. 410 Scutelleridce, or Land, o...



Thank You!