Building Annotation Into Browsers

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These slides: https://annotation-slides.glitch.me

Background

- Text Fragments: https://github.com/WICG/scroll-to-text-fragment

- E.g. https://www.w3.org/TR/annotation-model/#:~:text=This Selector describes a range of text by copying it
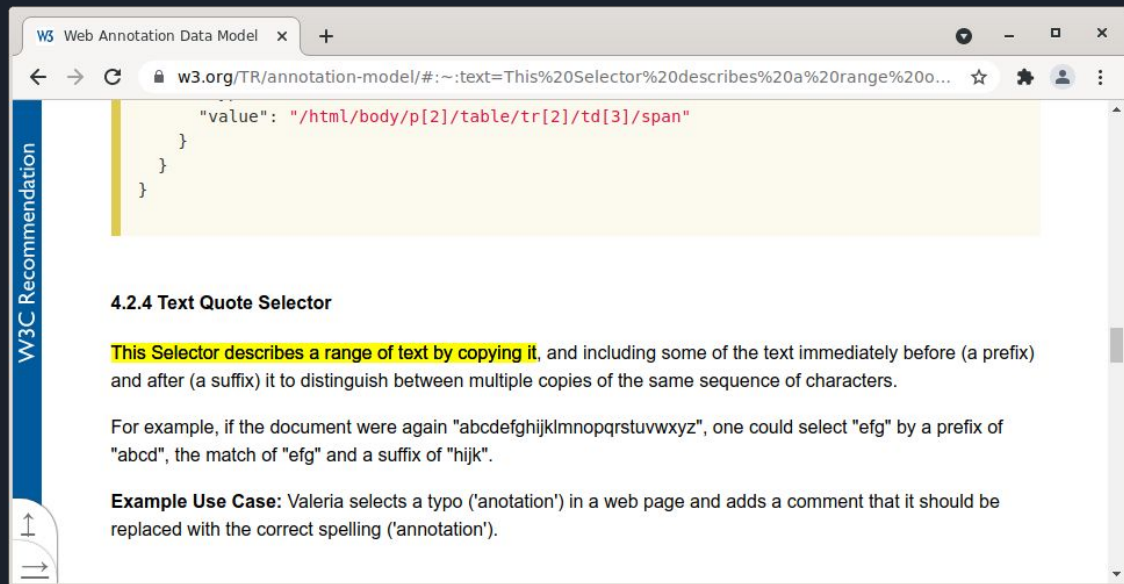
Background

- Link to text and sharing

Background

- Natural next steps:
    - Share with a reaction
    - Share with comments/discussion
    - Persistent highlights
- These are annotations!
- What about other browsers/user-agents?
- What about other annotators?

Web Annotation in the Browser

- Explainer: https://github.com/bokand/web-annotations

- Missing pieces in web platform?

- Special considerations in general purpose browsers

Disclaimers

- *Very* early stage exploration

- No consensus yet, even within Chrome

- My focus is on the platform

- Newcomer to annotation

Non-Goal

Client vs. Platform

- Want to focus on platform issues
- Platform is the infrastructure on which clients operate
- Everyone needs to agree on the platform
- Clients are free to make choices elsewhere

Annotation Ecosystem

Users 〉 Page Authors / Annotator 〉 Browsers

Why are browsers different?

- Broad and diverse user base

  - UI and concepts need to be easily understood without training

- Some users will not want annotations

- Users may not understand what the annotations are, where they're coming from, and why they're seeing them

- Will affect authors at a different scale

  - Annotations will now be visible to all their visitors

Lots of potential

- Shared commentary on the web

- More collaborative browsing

- Citations and Knowledge engines

- Corrections and proposed changes

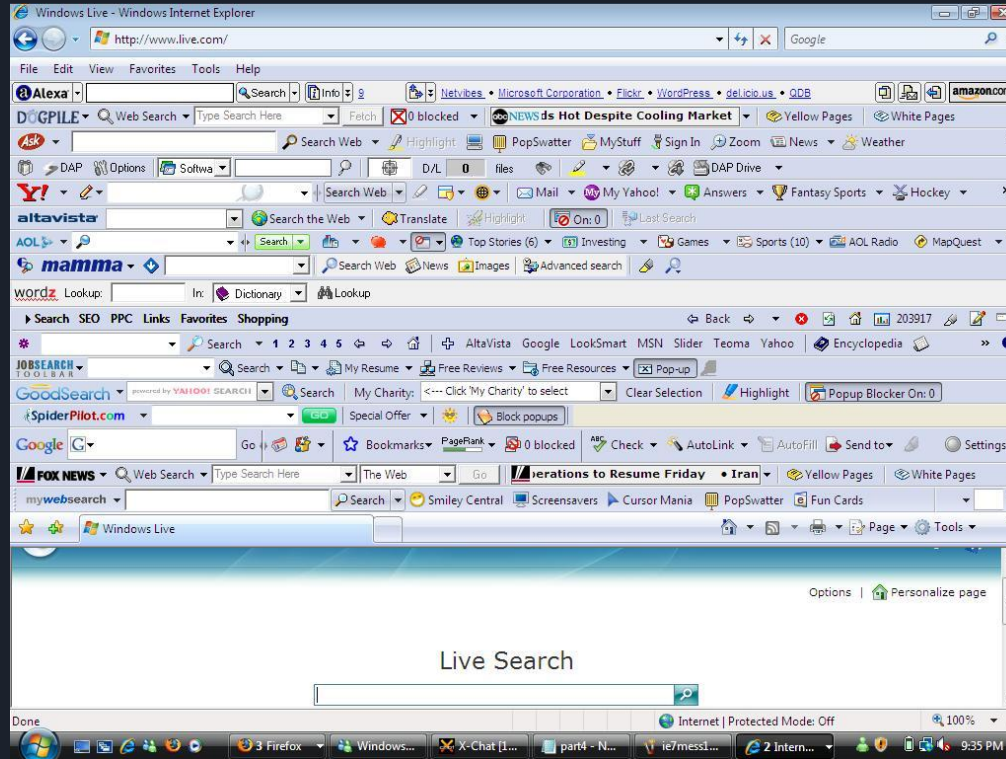- Aggregator comment sections

- Productivity and Metadata

Major Challenges

Moderation

- Abuse, security, spam

- Let services moderate?

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Moderation

- Abuse, security, spam

- Let services moderate?

- How do we make subscribing safe?

- Can annotations always be clearly attributed?

- Can the browser perform some mitigation?

- Feedback loops - what information can we surface to services?

- Defaults and incentives

Major Challenges

Author Control

- Complex tradeoffs - good arguments on both sides

- Likely to be more heated when broadened to all browser users

- Some control for authors seems good?

- Should users be able to override authors?

  - What about the user agent?

- Default Presentation
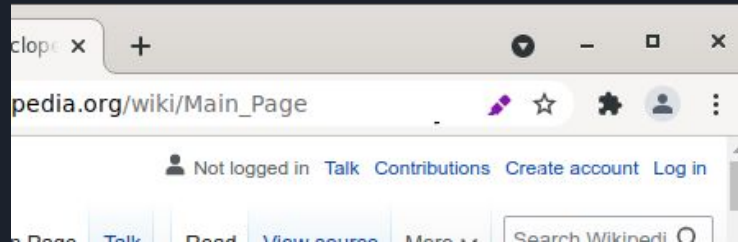
How might this look?

For more detail: https://github.com/bokand/web-annotations
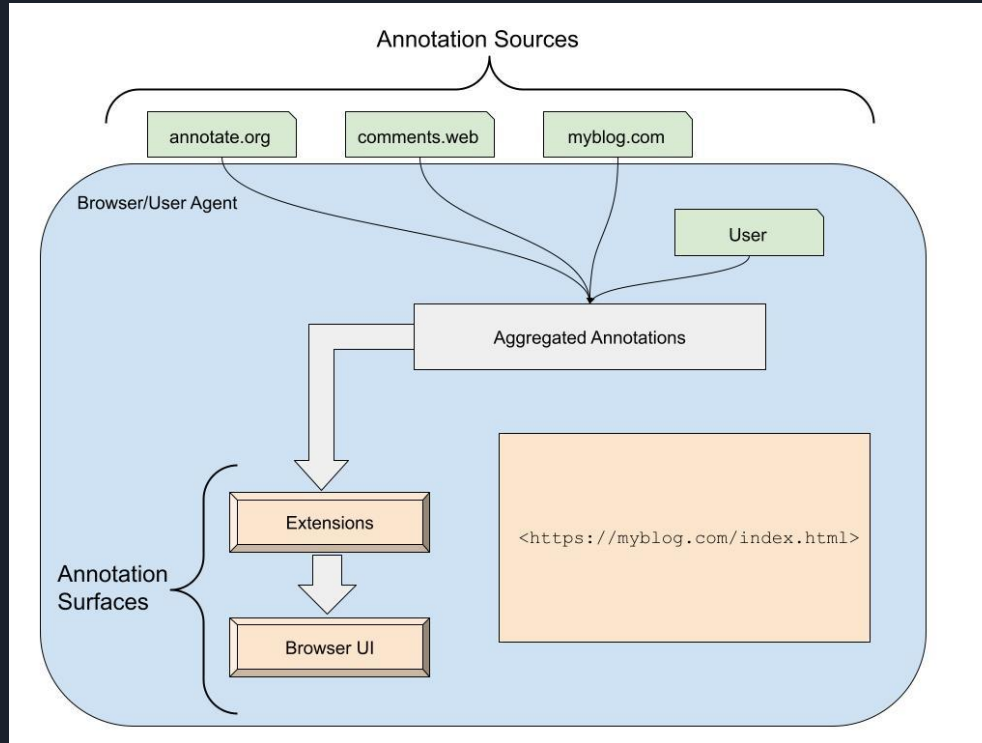
Annotation Sources

- Sources could be declared in many ways:
    - Configured in browser or extension settings page
    - A source could be embedded in a URL, using a new fragment-directive, e.g.: `https://news.com/story.html#:~:note=https://annotator.example.com`
    - The URL itself can be a source by having the annotation content embedded directly:

      `https://news.com/story.html#:~:note(selector=foo,text=comment-on-foo)`
    - A page could specify an annotation source in markup, e.g.:

      ```
      <!--Commentary by Hypothesis-->
      <link rel="annotation" href="http://hypothes.is/annotations">
      ```

Annotation Surfaces

- Browser UI provides basic common functionality

  - Styling?

- Extensions supplement browser UI

- Would need to provide new Extensions APIs

- Want to show annotations in one or the other

Annotation Surfaces

```
<script>
    chrome.addEventListener('annotationAdded', (e) => {
        if (e.annotatorUrl.origin == 'https://comments.custom-annotator.com') {
            addCommentUI(e.annotationData);
            // don't show in browser-UI
            e.preventDefault();
        } else if (e.annotatorUrl.origin == 'https://known-spam-annotations.com') {
            // block without showing
            e.preventDefault();
        } else {
            // show in browser-UI
        }
    });
</script>
```

Annotation Surfaces

- Browser UI provides basic common functionality

- Extensions supplement browser UI

- Would need to provide new Extensions APIs

- Want to show annotations in one or the other

- Extensions augment the browser's UI?

Author Control

- Authors should be able to signal an intent

- Definitely want this as basic markup - some authors don't control the server

```
<script type="annotationrules">
  // Show only annotations coming from notes.example.com
  "Annotations": [
    { "rule": "block", "href": "*" },
    { "rule": "allow", "href": "notes.example.com"}
  ]
</script>
```

Closing Thoughts

- This is a big change!

- Want to do this in an open and inclusive way

- Again: not a sure thing, still very early stage idea

- Careful, incremental progress