WikiLayer: Annotation for Wikipedia

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Abstract
Reading Wikipedia is the entry to more involved activities such as editing. However, the jump from reading to editing could be too big for some wikipedians who can be intimidated by exposing their content to public scrutiny. Annotating might foster not only reading but also be the prelude to editing. Different annotation tools exist for the Web (e.g., Diigo, Annotate). Being a Web application, Wikipedia can benefit from these tools. However, general-purpose annotation tools do not make annotation a natural gesture within Wikipedia. That is, annotation editing, rendering or retrieval in e.g. Diigo is dissociated from the edition, rendering or location of articles in Wikipedia, hindering the role of annotation as the prelude to article edition. WikiLayer is a Wikipedia-specific annotation tool. The implications include: (1) wikinotes (i.e. annotations on Wikipedia articles) might be WikiText formatted; (2) wikinote rendering is seamlessly integrated within the Wikipedia front-end; (3) wikinote editing, management and sharing is achieved without leaving Wikipedia (no separated annotation repository). WikiLayer is available for Firefox and Chrome.

Author Keywords
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Introduction
Reading has been characterized as 'a gateway activity through which newcomers learn about Wikipedia' [1]. Reading Wikipedia spurs community engagement, and it is the entry to more involved activities such as editing. However, the low rate of readers who become editors seems to suggest that reading is not enough. Understood as a learning activity, reading is commonly associated with taking notes. Different studies highlight the importance of annotation as a way to fix, relate and structure knowledge as you read [2]. Being a Web application, Wikipedia can benefit from Web annotation tools such as Diigo or Aannotate. Annotation systems permit users to ‘add, modify or remove information from a Web resource without modifying the resource itself. The annotations can be thought of as a layer on top of the existing resource, and this annotation layer is usually visible to other users who share the same annotation system’. Layering is a suitable approach for general-purpose annotation since it decouples the annotation functionality from the underlying website. The downside is that such decoupling leads to two different Web experiences: the annotating experience provided by the annotation tool (e.g. Diigo) versus the Web experience of the annotated website (e.g. Wikipedia). Such mismatch might not be a problem for most of websites. However, we advocate for Wikipedia to regard annotation not as an end but as a mean to foster reading and editing. Annotation in Wikipedia is not limited to record Web content for later referral. While annotating a University website is not directly related with the University goals (i.e. educating), Wikipedia is all about engaging the crowd in article contribution. From this perspective, annotation is no longer an ancillary activity but a main mean to fulfil Wikipedia’s ends. By using general-purpose Web annotation tools, we miss the opportunities brought by a Wikipedia-specific annotation tool. This implies annotating being seamlessly integrated within Wikipedia, i.e. being a natural gesture for wikipedians. But Wikipedia itself is a public repository whereas annotation is a private activity. Browser plugs-in offer a balance for local functionality to look like being natively provided by Wikipedia. This demo describes such an attempt: WikiLayer. This demo aims at raising awareness about the importance of annotation for engaging wikipedians, and collects evidences about what is meant by Wikipedia-specific annotation. The Firefox’s WikiLayer and the wikinote samples are available for download at http://webaugmentation.org/wikilayer.xpi and http://tinyurl.com/wikilayerwikisym2012, respectively.

Figure 2: Wikinotes: the ‘edit’ view. Besides WikiText buttons, the editor bar includes buttons to readily create wikinote templates. A single click, and the corresponding template is introduced.
Making the Act of Annotation a Native Gesture within Wikipedia

So far, Wikipedia supports two modes for article interaction: describing an article, and talking about an article. WikiLayer envisages annotations as a third mode: besides describing and talking, articles can also be subject to annotation. Wikipedia uses tabs to reflect modes: the Article tab and the Talk tab. Accordingly, WikiLayer introduces a third tab: the WikiLayer tab (see Figure 1). By clicking on this tab, the view tabs, i.e., "Read" and "Edit", become online editors for annotations upon the current article (hereafter referred to as 'wikinotes'). Clicking the "Edit" tab leaves you to a canvas to write a wikinote (see Figure 2). Clicking the "Read" tab renders the wikinotes associated with the current article (see Figure 3). Finally, if you go back to the "article" mode then, annotations are seamlessly integrated with the original content. Indeed, it is not possible to distinguish the original content from the annotation content. Since this might be convenient in some scenarios, the 'Highlight' tab paints with yellow the annotation content when reading the article (see Figure 1).

Tuning Annotation Definition to Wikipedia

A wikinote is more than just content. A wikinote is a contextual rendering-aware annotation upon an existing Wikipedia article. Broadly, a wikinote is a triplet <content, context, rendering options>. Akin to Wikipedia editing practices, this structure is captured through a wiki template (see Figure 2). These templates capture this multifaceted character of a wikinote. First, wikinotes are annotations. They have content. The source of this content serves to typify wikinotes: ad-hoc wikinotes (i.e., those provided by the user itself using WikiText; icon ✍ in the editor bar), transclusion-like wikinotes (i.e., those obtained from somewhere else within the Wikipedia; denoted by the extractSection() function; icon 📁 in the editor bar) and mashup-based wikinotes (i.e., those dynamically obtained from anywhere in the Web\(^1\); denoted by the extractFromPage() function; icon 📁 in the editor bar). Second, wikinotes are contextual. This means that the annotation refers to a certain section of the annotated article, and most importantly, it takes its full meaning by being rendered by this context. Template properties "onArticle", "afterSection" and "beforeSection" serve to pinpoint the scope of the annotation. Unlike decontextualized annotations, wikinotes do not have a specific recovery mechanism. The Wikipedia article itself acts as an entry to your wikinote local repository: type the Wikipedia URL as usual but now you will get the article plus the wikinotes. Third, wikinotes are rendering-aware. No doubt about the importance of visual appearance when reading, more to the point, if such reading is geared towards learning. The role of the wikinote (e.g., its importance) might impact the rendering. WikiLayer offers two mechanisms. First, wikinotes might be rendered readily and seamlessly integrated with the original article (i.e. onClickingButton = false) or rather be popped up on demand when clicking a button. Second, wikinotes might be embedded as part of the original article (i.e. embedNote) or provided as a draggable note to be moved around the article (i.e. postNote).

\(^1\)XPath is used to pinpoint the HTML region to extract. However, wikipedians do not need to know XPath. The first time a wikinote with an extractFromPage() function is enacted, the engine automatically navigates to this URL and intersperse a grid-like structure on top of the current DOM tree. As the user moves the cursor around the screen, the DOM node under the current cursor location is highlighted. By clicking, the user makes up his mind about the fragment to be extracted, and the wikinote becomes bound to the so-identified XPath. Subsequent enactments of this wikinote will directly extract this external region.
Sharing Wikinotes

Annotation alone might not be enough. Sharing within your close fellows might increase not only the quality of the wikinote but also your confidence to consolidate the wikinote as part of the original article. Hence, sharing might play a pushing role in this transition from reading to editing. By its very own nature and purpose, wikinote sharing departs from Wikipedia article sharing. Rather than a central repository, we regard social networks as more appropriate for layer sharing. Being plain text, wikinotes can be easily e-mailed or posted in a Facebook wall. In addition, WikiLayer permits wikinotes (individually or in an article basis) to be turned into an URL (by clicking the Facebook or Twitter icons in Figure 3). Once on the tweet (e-mail or Facebook wall), click the wikinote URL, and WikiLayer will automatically introduce the wikinotes in the given article. Benefits include easy sharing of large wikinote sets through Facebook and Twitter but also, the possibility of using bookmark repositories (e.g. Del.icio.us) to store and share your wikinotes. All your colleagues need to see ‘your Wikipedia’ (i.e. the original article + your wikinotes) is to install WikiLayer.

Conclusions

WikiLayer provides a lightweight, seamless, client-based approach to Wikipedia annotation. This endeavour is framed within the efforts to blend social knowledge management and personal knowledge management. From this perspective, WikiLayer paves the way towards introducing the personal perspective in wikis.

References
