Alipi - tools for a Re-narration Web

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ABSTRACT

A set of tools that demostrate the concept of a re-narration web, that aims to add alternative, target specific narrations of web documents as an extension of the web protocol with the intent of assisting a process of content dissemination and access that is inclusive of non-literate people.

Categories and Subject Descriptors

H.4.2 [**Computers and Society**]: Social Issues, Assistive technologies for persons with disabilities—*non-literacy*; H.5.3 [**Information Interfaces and Presentation**]: Group and Organization Interfaces—*Collaborative computing, Computer-supported cooperative work*

General Terms

Human Factors, Languages

Keywords

Accessibility, Inclusion, Collaborative narration, Localization, Social Semantic Web

1. INTRODUCTION

There are several assistive technologies used for web browsing such as screen readers, speech recognition, screen magnification and keyboard overlays. Web-page authoring guidelines developed by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C) that help in understanding and implementing web accessible content. However, these guidelines do not have a prescription for the print-impaired or to meet the needs of an "oral web". The issue of Web-accessibility for the print-impaired can be considered as the issue of the next-phase of Internet users - the next billion new users who may not be as literate as the earlier Internet users. This is a large class of people who cannot read the content today on (most) Web-pages and will include billions of people who are non-literate but might soon find it

easy to access the Web through their mobile phones (smart phones, tablets, ...). This is also an issue for inter-cultural inter-language inter-contextual communication that the current web is trying to cope with.

On the one hand, we need to look at how to author Web-pages [7] - the structure, appropriate tags and meta-tags, can help. On the other, we must inspect how Web X.0 can be utilized in making content accessible to a wider audience than what the original author could achieve. Such collaborative approaches are promising for making content creation feasible in terms of quantity (the number of re-narrations in various languages/audio/form) and quality (contextualization). The penetration of smart phones into developing regions, and the low cost tablets shall radically increase the reach of the Internet in developing regions. There are new challenges [8] for designers and users to re-narrate web content in ways that increase sharing rather than shut down collaborative possibilities. One of the most interesting challenges, we suggest [2], is the possibility for collaborative re-narration of web content. We have proposed an approach whereby users can access as well as provide re-narrated content in a decentralised manner. One use of Alipi might be to enable localization and contextualization of laws and policy documents that concern the citizens of a country, such as India, so that these documents become available on the mobile phones of the many print-impaired people [4]. Towards this, we have authoring guidelines that document authors can use. Then the re-narration model so an effective process can be initiated via the communities of interest or through those who have a mandate towards such activity. Filters help identify such communities of interest in certain context. For example, in the case of government documents that are put online, it may be natural for the authorities to announce an authorized re-narrators filter on their websites. Details in Alipi report of Aug 2011 [7]. This can become a directive to the Alipi's narration recommendation algorithm using which only the official translations or localization/contextualization are provided as choices to a user. See the videos and the page titled ReNarrationAct on alipi.janastu.org web-site to follow our case study of re-narrating a document regarding the law related to minimum wages. Also, an Android based phone is used to demonstrate that the print-impaired community of domestic workers can now "browse" this document using the Alipi toolbar on the Firefox browser.

This notion of Filters can also help bring to the Web, a parallel of print and news media organizations. For example, a bangalore.healthren.org can announce a Filter with

list of favorites who they recommend as good re-narrators for health related web-pages for the region of Bangalore, Karnataka. A user can subscribe to this Filter and choose the narratives from this list over others.

2. IMPLEMENTATION

Alipi web framework is supported by a set of open source tools that demonstrates the feasibility of the re-narration web. Alipi.us is a site that people can use to re-narrate and to also view available alternative narratives, with out having to install any browser extensions. These user utility tools are 1) authoring for narrators and 2) rendition of narratives for a target user - for a given URL.

2.1 The authoring-tool

The tool (see video - link below) allows a user to re-narrate a web page of choice. It makes the page content (sub-trees/elements in a page) editable by giving the user the possibility to: replace a text content with other text and/or provide an audio description of it, replace an image with another image more suitable for a given target - for example, cabs are yellow while in NYC but black in London, indicate the style of the re-narration - example: a summary, a translation...etc, indicate the language of the re-narration, indicate the geo-graphical localization of the targeted community, enter tags - example: the name as the re-narration author, and post the narrative as a post in their own blog (user's own repository or on another optional space) - which for in this implementation has to be a Blogspot blog.

2.2 The rendition tool

This tool allows a user to view a list of targets for which alternative narratives are available, re-render the page using a selected mashup of available narratives for a target interest. It also allows one to see the available narratives, at sub-trees/elements, for an xpath-indicated fragment of the page.

2.3 The server support

The posts concerning alipi narratives are indexed on an alipi server by crawling the content and the meta data in the tags of the posts in blogs. The server also responds by returning available narratives for a given url.

2.4 Plugin, mobile app, and site tool bar

Alipi Firefox add-on helps in indicating to a user when alternative narratives are available for a url. This plugin supports notifying the user of available alternative narratives for a given url, re- rendition of the page using a set of narratives and authoring of re-narration of a web page. When a user opens a page she wants to re-narrate she clicks on the Alipi authoring tool as seen in the video.

In the future, this can be configured to indicate only if narratives are available that are suitable for the user. An Android browser app allows a mobile user to select a suitable narrative when available. The initial version of Alipi browser extension is implemented as a Firefox plugin alipi.xpi. A tool bar, that can be embedded as part of a web-site, is also available. e.g., hejje.sanchaya.net

3. SOME SAMPLE VIDEOS

Intro - `http://www.youtube.com/watch?v=hPAcG9woM_8`

Lakshmi checking out the re-narration on mobile - `http://www.youtube.com/watch?v=ZjlBuecpfac`
Re-narration being done - `http://www.youtube.com/watch?v=-uQskjQh6Pk`
The re-narration video has no audio. The video is self descriptive.

4. CONCLUSIONS

We consider the accessibility issue of Web content by non-literate people to be significant issue of inclusive web. Automatic translation or systematic transformations by dedicated persons/machines not going to be effective as an approach that leads to inclusion. This is especially true when contextualization comes into play. Fortunately, there are many Netizens who are very capable of performing these tasks. They can identify and articulate content in alternate form in an appropriate manner – both in terms of meaning and in form. Socially networked uses of collaborative web design can lead to potentially infinite "re-narrations" of web resources. The new architecture we propose builds on rich ontological structures shared across social networks created in a distributed, de-centralized manner, used with browser plug-ins and web services that index these narratioons. Re-narration Web builds on developments in the architecture of Semantic Web; distributed active social networks [5] and Ontology servers [1]; browser based editors for re-narrations [6], HTML5, Web 2.0, browser extensibility, smart mobiles [3].

5. REFERENCES

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