

SIGACCESS Member Profiles

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Member of SIGACCESS since: 2005

Member of ACM since: 2005

Also member of: SIGWEB

1. How many years have you been working in this area?

I'm still new to the area of Web Accessibility and have been involved in the field for just 3 years now. I began with an MSc project under the supervision of Simon Harper and Sean Bechoffer in 2004. After my MSc I began a PhD, with the same two supervisors, which I am currently half way through the second year of completing.

2. Please describe your current and/or past research project(s):

Our current research project is Structural-semantics for Accessibility and Device Independence (SADiE). The aim of SADiE is to transcode Web pages so that they are more suitable for the audio rendering used by visually impaired users to access Web content. Traditional transcoding can typically fall into two camps. The first is Heuristic Transcoding whereby systems attempt to apply patterns or heuristics to Web pages in order to extract information. Whilst heuristics can be made to work for most Websites, they are brittle in the sense that a slight change in the layout can render the heuristic ineffective.

The second group is Semantic Transcoding. These systems attempt to capture the meaning of the elements of a Web page. This is usually achieved by annotating all the elements that occur within the page. The benefit of such systems is that they are incredible accurate. However, it is time consuming, tedious and sometimes impossible to annotate every Web page on every Website in order for it to be transcoded.

SADiE is an investigation into a hybrid solution. The principal idea is that the rendering of a Web page element is closely associated with its role. For example, sighted users know that a list of links is a menu due to the way it is rendered on screen. This rendering information is defined within the Cascading Style Sheet (CSS) and associated with the eXtensible Hypertext Markup Language (XHTML) via tag attributes. Therefore, rather than annotating every page, the CSS classes can be annotated. This reduces the overhead required for annotation, but as the Website content is being annotated via the CSS, the transcoding is accurate. Moreover, multiple Web pages could be transcoded because we annotate CSS elements that are used throughout the Website.

Currently we have implemented a prototype of our system (available at <http://www.cs.manchester.ac.uk/img/sadie/portal/>) and have performed some technical evaluations to establish if we can transcode pages using our method. These results have proven to be quite successful and so we have now moved on to a user study. This study has two elements. The first is to establish what kinds of transcoding visually impaired users would like to receive from our application. The second is to see if the transcoding we apply is useful to the users. As our user investigations are at an early stage, there are no formal results to report yet, but we have received informal feedback from a visually impaired colleague. His comments have both been positive and encouraging, so we are quite excited by future prospects.

3. *What is your professional background?*

I graduated from the University of Manchester with a BSc in Computer Science. After completing my degree, I then worked for the National Library for the Blind (NLB) on a short term basis. The NLB is a library service for visually impaired people that has a catalogue of over 32,000 Braille, Moon and giant print titles plus 14,000 Braille music scores. Members of the library can ring up and request that a book be posted to them. While I was working at the NLB, they were also implementing a system whereby when a user returned a book to the library, a new book was automatically chosen for readers based on their preferences and previous loans and then posted to them. After the NLB, I then taught English in Japan for nearly two years. I lived and worked in Omiya, Saitama Prefecture, which is just north of Tokyo. When I had finished teaching, I then returned to Manchester where I received an MSc in Advanced Computer Science and I am now into the second year of a PhD at the same institution.

4. *What technology or product would you really like to see developed? Why?*

SADIE, along with other Web Accessibility tools, has so far focused on how to allow users with disabilities to access information contained within a static page. Even pages containing content that is dynamically generated through backend databases and php present the user with a final static rendering of the content. However, recent Web developments, such as AJAX and Ruby on Rails, have created Web pages that users actively participate with, much like a user would interact with a desktop application. These include online tools such as calendars, word processors and email clients that notify the user of new mail without the need for the entire page to be refreshed. The user is no longer passively browsing the Web for information but is actively involved in the creation and manipulation of the page's content. As such, I'd like to see technology and tools developed that allow this new Web interaction paradigm to be accessible to people with disabilities. It seems that this would be a challenging yet interesting area of research, particularly for users who are visually impaired. No longer will it be adequate to just read aloud the content of the page, as most current solutions do. Instead, a method of informing users which content has been updated and how it has changed would be necessary. Techniques for then allowing users to navigate to and interact with the changed content would also be required and I believe within the next few years, this could become a hot topic within the field.

5. Have you participated in any SIGACCESS-sponsored event (e.g. the annual ASSETS conference)?

Yes, I was at ASSETS 2006 in Portland Oregon. There we presented a poster of our work entitled "SADIE: Transcoding Based on CSS." What I like about ASSETS is the friendly community-based atmosphere. I found that people had a genuine interest in the work being presented, creating a relaxed, friendly and enjoyable conference.

6. What else would you like to see SIGACCESS do? (E.g. publish a journal, sponsor more conferences, advise government policy, etc.)

At the moment I am quite happy with SIGACCESS. Considering SIGACCESS is small compared to other ACM SIGs, I think it does a lot of good work for its members. ASSETS is a good conference and SIGACCESS also supports other relevant conferences such as W4A. Continuing to find and support relevant conferences and workshops for the community would be a good thing for SIGACCESS to do for its members. I also think the new journal, Transactions on Accessible Computing, could become an important place of publication for people within the field.