

AMArI: a reporting interface for accessibility evaluations

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ABSTRACT

Accessibility evaluation and monitoring actions are distributed activities based on the analysis and verification of a huge amount of data. In this paper we present an application prototype, which produces accessible and personalized outputs (by means of graphics and tables) in a feasible way, on the basis of Web pages accessibility validations, thereby making data more understandable and accessible to distributed Web authoring/editorial staffs.

Categories and Subject Descriptors

K.4.2 [Computers and Society]: Social Issues – *Handicapped persons/special needs*. H.5.2 [Information Interfaces and Presentation]: User Interfaces – *User-centered design*.

General Terms

Measurement, Design, Verification.

Keywords

Accessibility monitoring, accessibility evaluation, data results.

1. INTRODUCTION

The goal of monitoring the status and progress of Web sites accessibility is usually reached by means of long and articulate validations done by distributed editorial staffs. The availability of automatic evaluation tools partially assists these activities but the monitoring is far from being actually supported.

The aim of this paper is to present the design and implementation of AMArI (Accessibility Monitoring Application Reporting Inter-

face), a tool devoted to support authors/editors involved in the implementation and assessment of accessibility. AMArI is meant to be Web based and accessible, providing reports both as graphics and tables. Each AMArI user can define a set of personalized views on data gathered by using an accessibility evaluation tool (Vamola [1]) and stored by means of a monitoring system (AMA, [2, 3]). Each view can: (i) represent the whole data set or a part of it, (ii) refer to a single Web site or to a group of them, (iii) show data focusing on one or two of the possible dimensions, (iv) be statically computed and stored or show everyday changes in the accessibility status. In the following of this paper we will describe main AMArI features and how users can set characteristics to create different couples of charts and tables, to exploit accessibility evaluation results from different points of view.

2. AMArI ISSUES

AMArI is an open source application based on PHP, HTML, CSS and AJAX technologies. AMArI Web interface has been designed and developed according to WCAG 2.0 and ARIA guidelines and it provides adequate alternatives to charts, aiming to be accessible itself.

AMArI users can set their own widgets, by means of setting options. Once created, such widgets will be always available through the user's AMArI home page. Each widget corresponds to a specific set of results, shown as a chart and as a related table (which provides the same data and information of the corresponding chart, as a bi-dimensional textual alternative, as shown on Figure 1), based on one or two dimensions, which can be chosen by the following ones:

- (i) Time: temporal dimension can be set as a single date or as an interval. Users can choose such dates so as to set the most recent accessibility evaluation as a single date or as the last date of an interval. This means that the widget will update data results time by time, whenever the validation system computes accessibility evaluations.
- (ii) Single or group of Web sites: each widget can show accessibility evaluation results of a single Web site (letting an in-depth evaluation, page by page and/or error by error) or of a group of Web sites. Web sites can also be grouped into cat-

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egories, thus users can choose to compare results of different Web sites categories.

- (iii) Accessibility guidelines and requirements (WCAG 1.0, WCAG 2.0 and Stanca Act) or accessibility barriers (grouped into disabilities which are affected: blindness, low vision, color blindness, deafness, movement impairments, cognitive disabilities, photosensitive epilepsy): users can choose data results related to compliancy to a specific set of accessibility guidelines or related to accessibility barriers faced by users with disabilities.
- (iv) Geography: this option has been added to let users compare accessibility levels of groups of Web sites distributed in different geographical areas.
- (v) Chart type: on the basis of already set dimensions and on their cardinality, AMaRi proposes to users adequate chart types (for instance: AMaRi proposes a timeline chart only if an interval between two dates is set as temporal dimension). Available chart types are pie (Figure 1), histogram, timeline and density (Figure 2).



Figure 1 – An AMaRi screenshot, with a pie chart and the corresponding table.

3. SETTING WIDGETS

In order to create a new widget, a wizard has been developed to support users in settings all the characteristics of accessibility evaluation results they would like to report. The first option is related to temporal issues. As for the second option, users can choose one or two types of characteristics which will be the most important in the widget, among (ii), (iii) and (iv) items of the list above. After that, on the basis of these characteristics, AMaRi will propose different steps, according to the lacking information to complete the widget. Finally, on the basis of user's preferences, AMaRi proposes a set of available charts, which can be different, according to already chosen options. On the left of the AMaRi interface, a summary of such options (Figure 3) will be always available, so as to let users come back and change them.

Once set the dimensions and all the options, users can save the widget with a name and a description. Then the widget will be shown in the AMaRi home page and it will be always available. Thus, each user's AMaRi home page is customized, showing a set of personalized widgets, on the basis of user's choices. For each widget, information about title, description, chart type, date and temporal interval and data types are shown. Clicking on the widget title, it is possible to access to the chart and the corresponding table. A suitable legend follows each chart.

4. CONCLUSIONS

AMaRi has been designed and implemented to support authors/editors involved in the implementation and assessment of accessible Web sites. It provides a feasible and accessible system to exploit a huge amount of data resulting by accessibility evaluations and monitoring activities. Its interface lets the users create their own points of view about gathered data.



Figure 2 – An AMaRi screenshot, with a density chart and the corresponding table.

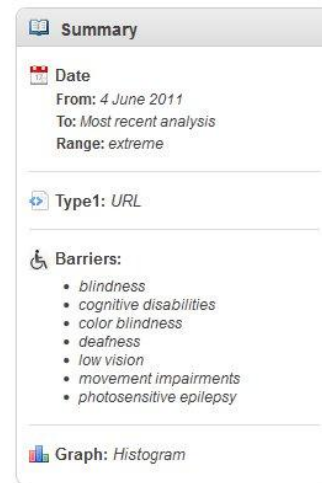


Figure 3 – An example of options summary during widget configuration.

5. REFERENCES

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