Ergodesign & HCI
número 2, volume 3, ano 3 (2015)
ISSN 2317-8876, Rio de Janeiro - Brasil

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Design custom interfaces for adaptive website: Everyone is different!

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Keywords: Web Interface. Design. Adaptive Web

1 Context

The Web languages are multiple and it is up to the individual to collect the information of interest. However, certain information may seem confused by the use of technical terms or even the visual approach that does not address certain age group or user repertoire. Custom interfaces can facilitate the process of communication with the user in regard to the visual aspect and verbal content.

In this context, this article will present the process of design of adaptive interfaces for adaptive website “Everyone is different!”.

The website is a hypermedia application that was produced in HiperLab (Research laboratory in Hypermedia Learning Environments) and aims to provide informative content about Down Syndrome. Presents style navigation 'tailored / custom' to different user profiles to better meet the needs, preferences and individual characteristics, and reduce the disorientation and cognitive overload. Three classes of users by the multidisciplinary team were pre-defined from the following age groups: children (6-10 years), adolescents (11-17 years) and adult (over 18 years). Thus points out the need to develop a template for each user class.

2 Method

This article focuses on his studies under the graphical interface of the three user profiles. Therefore the interface project adopted was Design Process of Adaptive Web Interface (DPAWI) proposed by Batista[1].

The model allows the designer to get an overview of the design process and conduct a structured, systematic and organized labor. Runs in a clockwise direction a sequence

of steps, starting with the analysis followed by other stages: concept, development, prototype and test.

The following items explain the steps taken in the process of design of interfaces. They were replicated in the interface definition for each profile type (child, teen and adult).

3 Results

The development of three different interfaces was taken the same steps as are described briefly below.

3.1. Analysis step

The first step in this project was to analyze all documents and user models, the field of information architecture and adaptation rules that had been developed so far, in order to understand the system's logic. As they were identified and understood the website's requirements began the development of Interface guided by DPAWI.

At this stage also held benchmarking sites related to Down Syndrome, health and more accessible to each profile sites (child, teen and adult) based on research done by statistical centers.

3.2. Concept step

After understanding how it was structured adaptive web were listed according to the requirements of the card user profile interface and idealized the interface. To this was structured semantic panel words attributed to the development of the concept.

3.3. Development stage

Here benchmarking done in the research and analysis phase was used to help compose and make the visual treatment of the interface. From it was structured a panel of images for each type of user profile. A panel with the following interface elements was built: the color palette, fonts, icons, buttons and textures.

The development of interfaces for adaptive website “Everyone is different!” was considered three classes of users: children (6-10 years); teen (11-17 years) and adult (over 18 years). The presentation was made possible through the method and technique of adapting the presentation "Layout variants" with characteristics consistent with each user class. In the interface design were put characteristic of each class and usability aspects were considered. According to Nielsen and Loranger[2] usability guidelines for adolescents differ from those for adults, and guidelines for children are even more different. For them there are several similarities between these age groups,

but the younger as for the public is recommended conducting user studies separated by age group.

Some experience criteria were established about what is expected for the interfaces, and for that, we considered the interaction design goals, Preece et al.[3], which are subdivided into usability goals and targets arising from the user experience.

Usability goals for the site will be the same for the three public: easy to understand, effective and efficient use and good utility. As for the user experience goals were adapted to each user's profile:

- Child user experience goals: aesthetically significant, motivating, interesting, fun;
- Young user experience goals: aesthetically appreciable and rewarding;
- Adult user experience goals: aesthetically sensible, pleasant, fruitful and satisfactory.

3.4. Prototype step

At this stage it happened to prototyping interface from a Web-based programming HTML5, CSS3 and JavaScript. The images were processed and edited to have the smallest possible size for your shipment was fast. The main menu has been implemented as drop-down. The adopted layout was centralized.

3.5. Test step

It was applied predictive validation guided by heuristics in the developed prototype, in addition, the interface was opened in different browsers to check its operation and consistency.

4 Conclusions

The aim of this project was to develop adaptive/customized interfaces for the website "Everyone is different!". To do this, was used a model of guidelines for Design Process of Adaptive Web Interface (DPAWI) developed by Batista[1]. This process has five stages: analysis, concept, development, prototype and test. One must remember that the process is iterative, in other words, does not end in the test stage, because based on the feedback of the evaluations, the cycle can be repeated as often as necessary.

The first step in the construction was to create the interface wireframe which was the basic structure containing the grid and the layout. It was later made the graphic and interactive visual planning for the three templates, adapting to the specificities of child user profiles, teen and adult, as the scope of adaptive website "Everyone is different!".

In the website content was made viable by the implementation of adaptive technique "Stretchtext" with expandable paragraphs and marginal notes in part that referred to the glossary. The premises of ergonomics and usability of interfaces were used with theoretical reference relevant researchers.

In the final part, after the construction of the layout, digital prototypes have been implemented in HTML5, CSS3 and JavaScript. To evaluate its functionality was used predictive evaluation basic heuristic observed as, for example, the operation of the interfaces in different browsers.

From the development of interfaces it was observed that the model and guidelines for DPAWI used in this study, fulfilled its role, as it was possible to develop the interface for adaptive website "Everyone is different!". In this way this work serves as a theoretical and methodological reference for the Web interface development whether 'adaptive/custom' or not.

5 References

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