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Capes.gov.br

Generating knowledge for web professionals

If you do not know, Capes – Coordenação de aperfeiçoamento de pessoal de Nível superior (Coordination for Higher Level Graduates Improvement) is a Ministry of Education foundation that is responsible for over half the post-graduate scholarships in the country.

The spirit of promoting the production of knowledge is so strong in the institution hierarchy that the reformulation of its site (www.capes.gov.br) is based on an unheard of research model, which has generated important results in the areas of web accessibility and usability.

To learn more about the particularities of this project, we talked with designer Felipe Memoria (www.fmemoria.com.br), coordinator of the team involved in reformulating the portal, and who currently works at the American agency HUGE (www.hugeinc.com). Read the details below:

1 – This project was developed by a team under your leadership in a partnership with PUC-Rio. How did the opportunity arise to command the Capes portal reformulation?
Capes is an institution that finances more than half of the post-graduate scholarships in the country. It sponsors research and invests in forming qualified people. This academic spirit made the board of directors deem adequate to invest in a restructuring project for its site that is fully based on research. The idea is to generate knowledge in the are of Usability, Human-Computer Interaction and Accessibility in the development of this model site. Its aim is to attain maximum accessibility levels – the so-called triple “A”. And that is far from being simple.

We lack really specialized professionals, who have practical, relevant experience in Usability and HCI. This lack is even greater when talking about accessibility, especially when we are no longer dealing with the basic, W3C validated, HTML. Therefore, there is a very high demand for research professionals in this area.

My name was indicated due to my practical experience in the marketplace, for having written a book on Usability and User Experience, and my academic link as professor and researcher at PUC-Rio. So I designed a research project and we are making it happen in a partnership with LEUI – Laboratório de Ergonomia e Usabilidade de Interfaces em Sistemas Humano-Tecnologia (Ergonomics and Interface Usability Laboratory for Human-Technology Systems) at PUC-Rio

2 – One of the main motivators for the portal reformulation is decree 5.296/2004 (www.trt02.gov.br/geral/tribunal2/Legis/Decreto/5296_04.html), which determines that sites within the scope of the government follow the basic web accessibility

precepts. With the experience from this project, what are the costs involved in making a site be accessible?
There are several accessibility levels that can be attained when preparing an accessible site. Having a semantically correct and structured XHTML code is a large step forward in solving part of the problems faced by visually impaired people who use screen reading software. In turn, to attain the AAA level, which is the maximum accessibility level, requires more time and, as a consequence, a higher investment.

It is worth remembering that such an investment can have excellent return, since an accessible site is also better indexed by search engine robots that interpret the code the same way as a screen reading software does. This way, the robot "understands better" what the site content is about, and increases its relevance when displaying the search results, placing it among the first sites that appear.

3 – Speaking of accessibility, what are the changes that take place in the development process of a site in relation to models adopted without the priority to include accessibility?
When attaining maximum accessibility levels is desired, the process undoubtedly takes longer. The differences range from small interface, code details, up to a larger set of tests that must necessarily be made.

Planning for a product that takes into consideration the functionalities, the pages and main flows must be more detailed. Especially when there is not much experience around in the subject. It is a completely new world, with several features that are different from those we are used to. During the process, we have to benchmark details that were entirely new, look up things that at this stage in a normal project, would be in our veins. I will not research, for example, about the position of a search field. I know what my options are. But what about the position of accessibility options, such as contrast change, keyboard shortcuts, and font size change? Further still: What are these elements? How many are there? There are also several visual displays for each one, many ways of resolving. Which one is best for out project? Do the options people use really work? Would they? Has anyone studied about it?

I mentioned the accessibility options detail. That is a point that can be learned and cease being a hindrance in future. But there are many others. Perhaps the greatest challenge is thinking how the site will remain accessible after it is built. We are producing manuals, we will provide training, in sum, our work will have to go beyond a web design. It will be a joint effort with the people from Capes.

Beside all that, in order to reach the expected accessibility level, we necessarily have to perform tests with users who are disabled. It does not work as in traditional projects, where the tests are a great tool, but not compulsory. In our case, they are compulsory. It is a premise.

4 – One interesting detail in this project is the application of the methodology related in the book "Getting Real" (http://gettingreal.37signals.com/GR_por.php), created by the American company 37Signals (www.37signals.com). Why did you decide to use it in this project?
I am an enthusiast of the work by the people from 37signals right from the start, when they were still a small company made up of professionals able to make fantastic sites: simple, user-friendly, pretty and straightforward. They have always been a reference for

me. They were usability experts who would not forget about esthetics, and understood the product. They ended up repositioning themselves in the marketplace as company that makes applications that work on the web. Their work method, which is also used in the development of their main product, the Basecamp (a project manager), was recorded in this book, called “Getting Real”.

One interesting thing is that 37signals did not grow as much as it could have. They have always been a small team. Personally, I never believed in projects with thousands of people involved, thousands of meetings, paperwork, emails, presentations, formalities, and approvals. The book deals exactly with that, and says what I have always wanted to hear: just 3 people are needed to build very nice stuff on the web. They are called the 3 musketeers: a developer, a designer, and a “sweeper”, who can roam between both worlds.

This project was the opportunity to implement the methodology I believed in, working with people I trusted and trying, personally, to seek excellence. I spent a few weeks thinking in the ideal formula, and, reading the book, I realized that calling the two missing figures would be a good path. So, I invited the other two “musketeers”: Jorge Falcão (developer) and Alexandre Saddi (a designer who is very comfortable with the IT part). We thus formed the team of 3 that has been together in all important decisions, right from the start.

During the project, we also relied on the help of other professionals we handpicked for specific tasks: Leonardo Burlamaqui was the information architect, Diego Zambrando created the art direction, Bernardo Walkiers was in charge of text production and webwriting, as well as other collaborators. Our ideas was to work with a lean team, made up only of senior professionals. With this, as the book recommends, the cost of changes is small, communication is easier, there is less paperwork, meetings are almost not required, and decisions are made quicker. This helped us manage to launch the first version of the huge portal, with administration system and all, in just 3 months after the first meeting.

It is very important to point out that the project is still ongoing and is far from being ready. It still cannot be considered a model project. We only launched the first version. Usability, accessibility tests, and other novelties are still due.

5 – Still on the subject, could you point out what are the advantages of this methodology in relation to the standards still in use in the Brazilian web design marketplace?
I do not feel comfortable talking about the market in general terms, but I can talk about my experience. I think that, especially in big companies, with many employees, everything moves much more slowly than it should. There are a lot of irrelevant meetings, thousands of “formalization” emails a day, a lot of unnecessary paperwork to show some work and for personal protection, and so on. This type of thing is very counterproductive. Obviously, companies with many employees do need a certain amount of paperwork. But when that paperwork is not read, everyone knows about it and continue creating it, I think there is something wrong.

The book advocates a much more practical approach to things, based on the concept of “less”. Less functionalities, less options, less people, less meetings, less promises, less paperwork. Meetings intoxicate, decisions must be made quickly and promptly. If they

are wrong, that is ok, just correct them and it is over. Correcting eventual mistakes is simple in our profession. It is difficult to correct a mistake made in brain surgery.

6 – In terms of design, you altered the portal chromatic combination, changing the palette that was based mainly on blue and green for tones of ochre. What studies were made to make such a change effective?
The chromatic change was actually very extreme. In the first moment, we thought the old colors should be predominant. It would be the trivial solution. In conversations with Capes employees, we noticed that in fact there was no real reason for those colors to be used but because they were the colors on the institution brand. Apart from that, Capes did not have blue, green and white on their printed material or any other material.

We made three different layouts for the page. I made one, Alexandre Saddi made another, and Diego Zambrano made a third one, which was our favorite. His was the only one with this different chromatic pattern. There is no right solution, there are several possible solutions. Ocher was what pleased us and the people at Caper most: the presidency, the board of directors, and employees. It is a warmer tone, makes the relation with users less cold, which is common when speaking of portals. This coldness is a barrier to be broken, and the color makes it more pleasant to use. We stuck to it.

7 – A novelty in this project is the implementation of a function that turns the screen into a high contrast browser for people with impaired eyesight. How did the idea for its development appear and what were the resources used to make it functional?
When developing an accessible site, not always are we talking of the use of special software or compatibility between different devices. Some visual issues should be taken into consideration, since there are people who have difficulty in recognizing certain colors. Beside that, with time, it is likely that most of us suffer some degree of eyesight loss that affects focus and contrast, which reduces our capacity of recognizing shades, edges, patterns, and textures.

With that in mind, together with the functionality of increasing font size, we developed an optimized version to obtain the maximum contrast and readability. Technically it is a function in JavaScript that changes the page CSS and saves a cookie so the user preference is maintained when navigating through the portal.

8 – Another significant modification to the portal layout is the change of typographic families (Arial for Georgia). Which factors influenced the choice of the new site typography?
The typography chosen was consistent with the ochre layout. We had long discussions about that. We even maintained the same layout and change the font only, but a lot was lost. The use of a seriffed font is interesting due to the fact that the institution is related to academia, to tradition. Between the two seriffed fonts from the possible systems, we chose Georgia. It is designed to function with good pixel definition on the screen. Had we chosen a different visual solution, we would probably have used another font. Georgia simply worked perfectly with the layout we chose.

9 – You developed a special CSS for the printing page part. At which stage of the project did the idea to implement such functionality appear?
When we were designing the news page. This functionality was always somewhat controversial. The most “modern” solution is to define a special CSS for the printing

page, but without telling the user it was done. I always thought it was confusing, since users in general are used to printing what they are viewing. No matter how good the text is formatted for printing, I do not like that the user cannot see what is being printed.

I have always been for the “print version”, opening a new page that is cleaner making it clear to the user what was happening. I thought I was the only one to think this way, up to the moment during the project when I read a published article by Peter Mcvicar in A List Apart (http://www.alistapart.com/articles/printtopreview/). He provided a good idea to solve the problem: use the “print” command and simultaneously open a page for printing with a disclaimer and the system print box. We are aware it is not interesting generating two actions with a single click, but in this case we thought the solution was interesting and decided to follow the suggestion.

10 – During the user experience period in the portal, they can choose the ideal font size for reading. Also, all the links are underlined. Were such choices defined after usability tests? How was usability inserted in this project and in the “Getting Real” methodology?
No. Unfortunately, we did not manage to perform any tests before the launch due to the time we had available before the date established by law. The font change issue is related to accessibility. Older people have difficulty seeing, and this type of option helps. The choice of underlined links was easy to make. Capes’ target public are researchers, professors, scholars and students. A large part of them are people of more age, who are not so young any more. The underline is a web classic, a feature these people already knew. We did not want to make them learn a new standard just for our site.

It could not be any different, we were alert in relation to usability right from the start. We surveyed deeply the main flows, tasks, most visited pages, target public needs, and so on. We designed the information architecture and wireframes based on that. As I said before, we still have to perform the usability tests. One thing we need to validate is the portal information architecture. That was the great challenge. We surveyed the present architecture and proposed a new one, based on the target public. We held long talks with Capes and got to the result that is on the air. However, we feel that still needs validating.

In the beginning, we also thought about performing task testing (users follow a task script suggested by a moderator), but at present, the architecture is the more critical point in the portal, since navigation and the main flows are reasonably trivial. Therefore, our first test will be for card sorting (where users organize the contents according to their expectations). The book Getting Real talks about Usability, but the simplified process it suggests makes the job easier as well as any eventual change we need to make resulting from the tests.

11 – The portal grid contains a header and footer that gather some main pieces of information, search, links, and brands from institutions involved with Capes. In turn, the core had its interface divided into four columns that display the novelties and site contents. How did you work on the site information architecture and its influence within the definition of the site grid?
The architecture was designed by Leonardo Burlamaqui and was our first concern. As I have said, we surveyed the present architecture and after made a plan for a new organization, fully based on the target public. We also held several meetings in Brasilia

to validate what we had designed. It was no simple task, since Capes has many responsibilities and contains several important areas.

Once the architecture was established, the menu items were defined and we knew what should be displayed in the home page. Since we chose the vertical menu, the first column were dedicated to it. The second column highlights the news, which are daily and the callout for the frequently asked questions (since the amount of emails received by employees was huge). The middle column highlights two of the most sought areas in the portal: scholarships and course assessment. On the right-hand side, we organized the callouts that can be reordered and are capable of displaying any content. The main callout also has different versions. These solutions make the portal be less cast in plaster and more useful for maintenance and for users, who may have different needs depending on the period.

12 – In the content management part, OpenCMS (www.opencms.org) was chosen as the tool to execute the task. What type of studies did you make to define such a choice?
We had a requirement to adopt a Java solution, which was a request from the internal development team at Capes. Given that, we assessed several open source tools available before choosing one or the other.

Actually, the final platform we will be using in the project is LifeRay. While OpenCMS is a content manager, LifeRay is a Portal manager, which is perfect to better integrate the new site to the existing applications in Capes. However, when we started to implement the new site layout in LifeRay, we found that the process for it to generate an accessible code would be complex and, as a result, slow. As we did not wish to risk not meeting the deadline to launch the site, we decided to use OpenCMS, which showed to be more flexible in this item.

13 – At the end cycle of a project, the use of tools to measure the return on investment confirms the job was well done, as well as ensures its continuous improvement. How do you work on this issue? What are the next steps in the project?
The Capes site project is still ongoing. We are half way regarding the accessibility part. We will perform usability tests, migrate the system to LifeRay, perform accessibility tests with disabled persons, adjust, reorganize, realign. There is still work ahead and slowly, through new releases, we will be making it look like we want it to.

Capes does not need to generate income through the site, it does not live off its audience with publicity income and does not need to advertise its services. On the other hand, it has to maintain its credibility and brand respectability. The nicest point in this project is that the return on the investment from the site will be similar to that from researcher who receives a scholarship abroad with the mission of bringing knowledge to the country. The experience with the site development will generate knowledge that will be shared. This interview is a beginning of this return.