Usability Evaluation 1
Inspection

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Website - https://www.visitmonterosa.com

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Table of Contents

1 – Abstract

This document reports the *Usability Evaluation* of the Monte Rosa website (see the link above). *Usability* is a crucial quality aspect for the User Experience (UX) of an interactive application. It represents the easiness of use of an application. It is evaluated with an "*inspection review"* method using a "*heuristic-based"* approach.
The goal is to verify the compliance of the website with usability quality principles thanks to an examination of the UX-related aspects.
The document contains information about how the inspection is performed by expert evaluators and the conclusion derived from the analysis.

2 – Inspection Method

Usability evaluation is an essential part of the product development and should be done as early as possible. The purpose of the *inspection* is to identify flaws, errors and the biggest pain points in the Monte Rosa website design.
The website contains extensive information about visiting Monte Rosa with regards to experience (i.e. activities, food, nature), accommodations, ski activities, events, near territories and service offered. There is a huge amount of information, for both winter and summer seasons.
Once the analysis is performed, all the weaknesses identified should be taken into account from the stakeholders and the proposals used as input to redesign some contents to solve most of the problems.

The ***process*** to carry out the inspection is the following:

- **Heuristic Agreement**: it is very important to agree between all the evaluators about the heuristics on which the website should be evaluated; they have to be significant and meaningful in relation with the context of analysis. They were chosen among the Nielsen's 10 heuristics and MILE heuristics.

- **Evaluation Agreement**: each one of the heuristics decided in the previous step of the process is evaluated by all the inspectors, who assign a value in a given range and each value has a specific meaning. In this phase it is decided how the evaluation is done in order to have all the evaluation aligned and not biased. In particular it is made by giving a score in a range between 0 and 5.

- **User Goals**: it is established among all the inspectors which are the main goals the typical user performs when he/she visits the Monte Rosa website. The goals are useful to make easier the task of the inspector, in fact he/she evaluates the website with respect to the agreed heuristics having in mind some tasks to achieve on the application.

    - Searching for activities (restaurants, shopping, etc.) to do while visiting Monte Rosa
    - Online booking for a holiday
    - Seeking for an accommodation
    - Looking for events
    - Buying a ski-pass
    - Transport means to reach the localities
    - Finding an instructor and/or equipment
    - Contacting tourist offices or other structures

- **Individual Evaluation**: each one of the inspectors, based on the heuristics decided during the previous phase, evaluate the website usability trying to put his/her-self in the shoes of the final user who want to achieve the main goals listed above.

- **Group Evaluation**: discussion among all the inspectors about the individual scores. Each one of the evaluators explain his/her reasons for the assigned scores with examples and comments containing the main flaws detected. The purpose of this phase is to find an agreement of the scores and give a group score to each heuristic.

- **Analysis and Report**: all the scores are analyzed, and some statistics are derived. After the analysis is decided which screenshots and visualization should be inserted in the document to better explains issues or useful insights discovered with the inspection evaluation.

The specific ***usability heuristics*** used are:

- ***NAVIGATION***

    - **Interaction consistency**: do pages of the same type have the same links and interaction capability?
    - **Group Navigation**: is it easy to navigate from in and among group of items? E.g from the list of items of a group to its members and the other way around; among different groups; among members of the same group (next/previous).
    - **Structural Navigation**: is it easy to navigate among the components (parts) of a topic?
    - **Semantic Navigation**: is it easy to navigate from a topic to a related one, in both directions?
    - **Landmarks**: are landmarks useful to reach the key parts of the web site?

- ***CONTENT***

    - **Information overload**: is the information in a page too much or too little?

- ***LAYOUT***

    - **Text layout**: is the text readable? Is font size appropriate?
    - **Interaction placeholder**: are textual or visual labels of interactive elements expressive? Do they reflect the meaning of the interaction and its effects? Are they consistent?
    - **Spatial allocation**: is the on-screen allocation of contents and visual appropriate for their relevance? Are semantically related element close and semantically distant element far away?
    - **Consistency of page structure**: do pages of the same type have the same layout (same visual properties of each component and similar lay-out organizations of the various elements?).

The specific ***score metric*** used for assigning a score to the heuristics is to give a numeric value between 0 and 5 to each one of the heuristics. If the heuristics is not satisfied the score is 0, while if it is completely satisfied the scores is 5. A score in the range means that there are some issues and flaws, but they are not so heavy, so a medium score is a good choice.
The scores metric is the same for both individual and group evaluation.

3 – Study

As stated above, the *Usability Evaluation* study is divided in two parts.
In the first one, each inspector autonomously evaluates the site and assigns a specific score to heuristics. Instead, in the second part, all together discuss the evaluations done and decide a unique score for each heuristic according to the metric.
Finally, inspectors analyse the score using some statistics and organize the results in table and charts in order to better visualize them.

4 – Scores

In this section are reported the scores of the inspection with different views. First, individual scores are presented (there are three inspectors). Second, the scores agreed among all the inspectors, where each one of the heuristics has an associated numerical score and some comments in order to justify the evaluation. Some visual elements like screenshot are also provided.
Finally, aggregates scores with some graphs are reported. All the evaluations are reported in tables.

4.1 – Individual scores

NAVIGATION

Heuristics	*Salvatore Fadda*	*Dario Miceli Pranio*	*Adriano Mundo*
Interaction Consistency	*4*	*3*	*3*
Group Navigation	*2*	*2*	*3*
Structural Navigation	*4*	*5*	*5*
Semantic Navigation	*2*	*3*	*2*
Landmarks	*3*	*4*	*4*

CONTENT

Heuristics	*Salvatore Fadda*	*Dario Miceli Pranio*	*Adriano Mundo*
Information Overload	*2*	*3*	*2*

LAYOUT

Heuristics	*Salvatore Fadda*	*Dario Miceli Pranio*	*Adriano Mundo*
Text Layout	*5*	*4*	*4*
Interaction Placeholder	*2*	*3*	*3*
Spatial Allocation	*3*	*4*	*4*
Consistency of Page Structure	*3*	*3*	*3*

4.2 – Agreed scores

Navigation

Heuristics	*Agreed Score*	*Comment*
Interaction Consistency	*3*	*Pages of the same type are not always consistent in the interaction, there are differences in similar pages. Links of the sub-groups of the top-bar are not consistent with links in the respective pages.*
Group Navigation	*2*	*Navigation between group members change between different groups; they have not always the same behavior creating disorientation for the user*
Structural Navigation	*5*	*All the pages display components in an ordered way, so navigation is easy*
Semantic Navigation	*2*	*There's not an easy way to navigate from one topic to another, the only way is to use the top-bar*
Landmarks	*4*	*Landmarks are good, in particular shortcuts. Footer has few information and some choice could be revised.*

Interaction Consistency

We considered all the pages of the same types, analyzing the page listed in the top bar, which are the most important of the sites.
We identified that "Experience Monterosa" (Fig.2) and "Accomodations" have the same structure and interaction capabilities for the links in the subpages, while "Monterosa Ski" (Fig. 1) and "Discover Monterosa" have the same structure between each other but different from the previous pages, in fact they have not all the links displayed as a list but they are embedded in the text, which is the main component of the page structure.
"Events" has the same structure of the sub-page of "Experience Monterosa" (Fig.2) and "Accomodations".
There are discrepancies between the links of the sub-pages and hyperlinks within the text with respect to the links displayed when the user hovers the top-bar (Fig. 6) with the mouse.

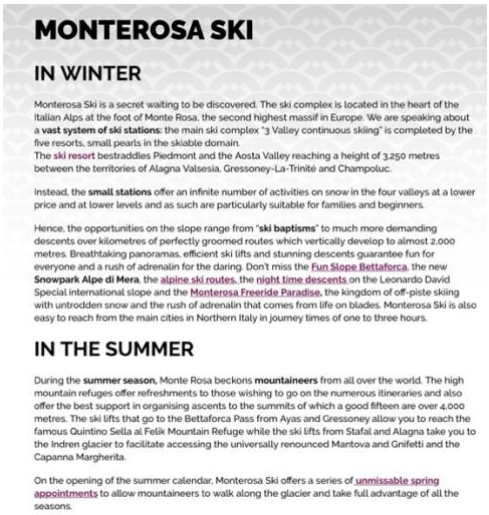


Fig.1 – Monterosa Ski page

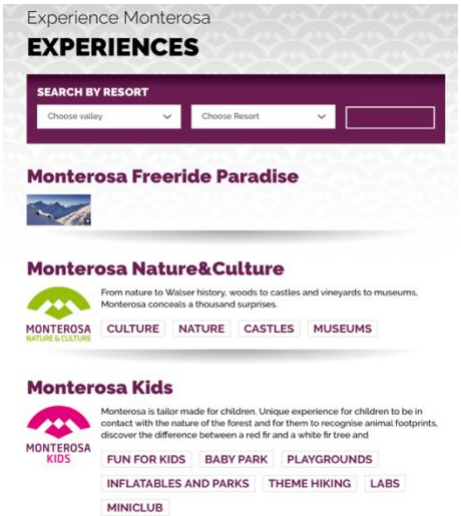


Fig.2 – Experience Monterosa Page

Finally, if the users visit the page "Free Ride Paradise" (Fig. 3), which is accessible from a link within the "Experience Monterosa" (Fig. 2) page, is re-directed to another site with a different logo and colors but with the same layout.

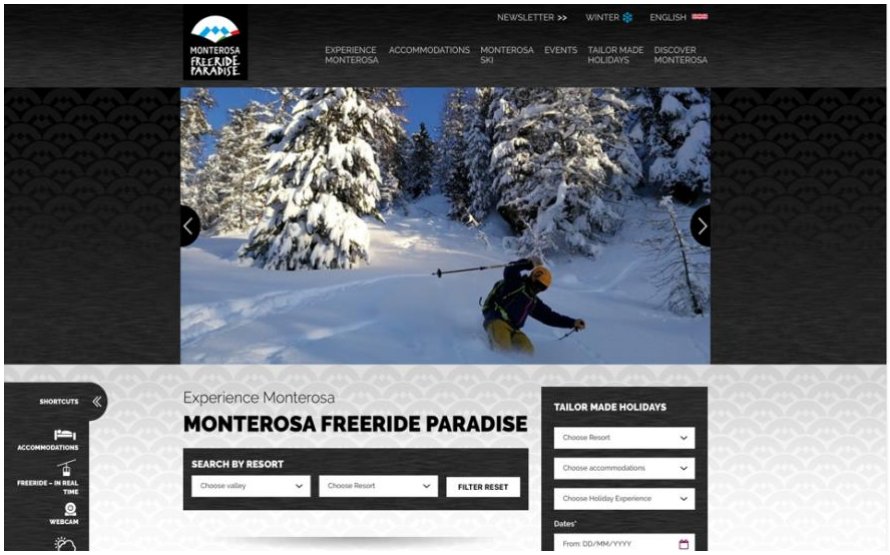


Fig. 3 - Monterosa Freeride Paradise Page

Group Navigation

The navigation among groups is not always the same, it depends.
In “Experience Monterosa” (Fig. 2) page is easy to navigate to the subgroups but not the other way (Fig. 4), the user can only return to the introductory page. Also, there’s no way to navigate between elements of the same group. In “Accomodations” and “Events” the only chance to go back is the browser button. In “Monterosa Ski” and “Discover Monterosa” in order to navigate to subgroups is necessary to use the hyperlinks in the text, there’s no way to go back and not all the group elements of the top-bar (Fig. 6) are accessible from the page. Also, it is not so easy to reach all the sub-groups pages. (Fig. 5)
“Tailor Made Holidays” has no a page, the only way to reach all the items is the navbar at the top.

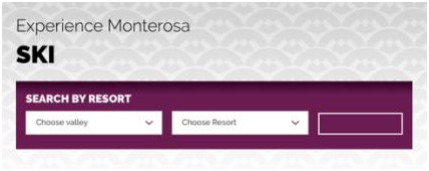


Fig. 4 – Ski sub-page

Fig. 5 – B&B sub-page

Structural Navigation

All components of a single page are displayed in a structured way, with a header at the top (Fig. 6) and a footer (Fig. 7) at the bottom of the page. The structure of pages is simple, so navigation among the different components is easy.

Semantic Navigation

The site does not allow to easily jump from one topic to another one. The only way is to use the top-bar (Fig. 6), which does not follow the scrolling of the page; it is blocked at the top, which create frustration because the user has to scroll up at the beginning of the page to access another page.

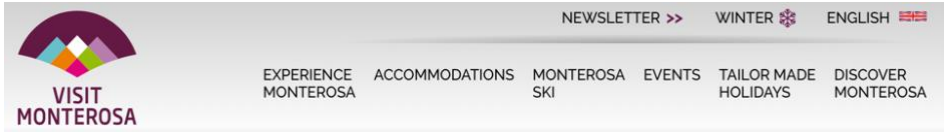


Fig 6 – Top-bar / Navbar

Landmarks

Landmarks are well designed, they have not severe issues apart from the footer (Fig. 7), which is very poor of information; it does not have the table of contents but only some links to contact and privacy/cookie policy. It has the search tool which could be more useful at the top of the page. There's also a shortcut menu (Fig. 8) on the left in every page of the site; the choice of linked pages on the shortcuts can be revised.

Fig. 7 - Footer

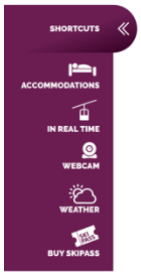


Fig. 8 – Shortcut menu

Layout

Heuristics	*Agreed Score*	*Comment*
Information Overload	*2*	*The site contains a huge amount of content but a lot of pages display one line or no text at all, while others are too rich of text and information.*

Information Overload

The site presents a lot of contents and information. Some pages present too little text to justify the use of an entire page. In (Fig. 9) there's just one line of information and there are similar pages with two or three lines of text or no text at all; other pages such as in (Fig. 1) are cluttered of text that may distract the user, in particular it's not clear where the designer wants that the user should be focused.

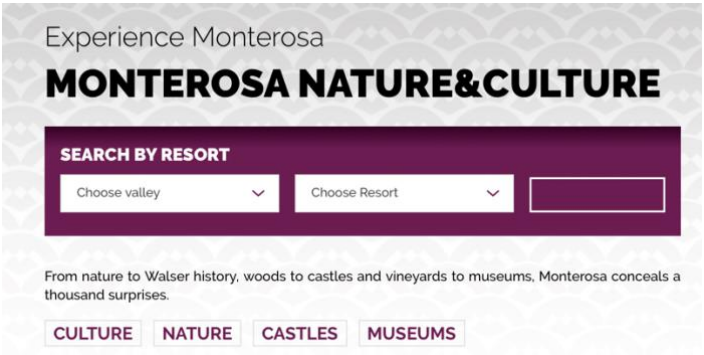


Fig. 9 – Monterosa Nature & Culture Page

Content

Heuristics	*Agreed Score*	*Comment*
Text Layout	*4*	*The text layout and the font size is not always the same; sometimes there's no clear distinction between heading and text body but it is enough to read properly.*
Interaction Placeholder	*3*	*Elements are not always highlighted (like in the top-bar) and images and links don't provide descriptions or interaction. Instagram link does not work at all.*
Spatial Allocation	*4*	*The allocation is appropriate w.r.t to the context, it is always the same even if elements are different.*
Consistency of Page Structure	*3*	*Pages of the same type have not always the same structure.*

Text Layout

The text does not perfectly fit the overall structure of the web page but it's readable (Fig. 10). The font size in most cases is appropriate but sometimes changes without distinguishing properly between the different section like heading and body text.

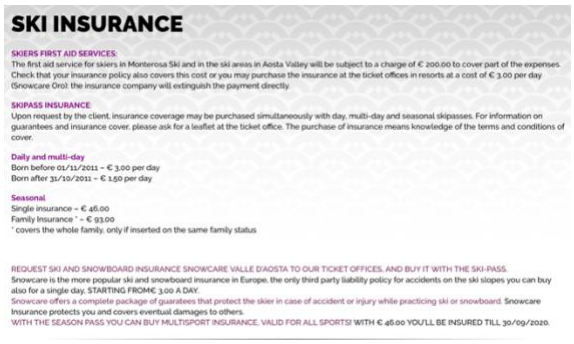


Fig. 10 – Ski Insurance Page

Interaction Placeholder

Most of the elements of the web page don't show an interaction with the user; the introductory pages that contains list of items have the issue that elements are not highlighted when hovering with the mouse, they don't show interaction. Sometimes when an element is highlighted is not immediately visible; images have no descriptions; they are just placeholder. In the "homepage" there's a sub-menu bar (Fig. 11) with some shortcuts to the site. It does not have any meaningful interaction with the user. Links are used instead of a media player (Fig. 12).

Fig. 11 – Bar menu homepage

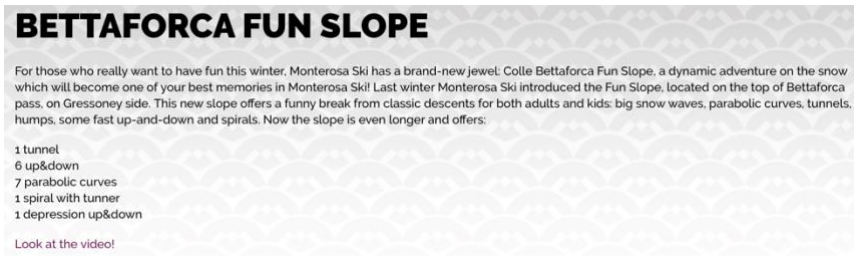


Fig. 12 – Bettaforca Fun Slope page

Spatial Allocation

The overall layout of the pages comprises a banner with an image, a shortcut menu on the left and a column box on the right for booking an online vacation.
At the center the content is usually a text, a list of links to sub-page or rectangular boxes with some information. Even if the elements of the pages are different the allocation is always the same and appropriate to their relevance.

Consistency of Page Structure

All Pages belonging to the topics have not similar layouts, there's not a particular attention to integrity and consistency.

4.3 – Aggregates scores

Heuristics Averages

This section lists the averages for each heuristic calculated using the individual scores of the inspectors.

- Interaction Consistency: **3,3**
- Group Navigation: **2,3**
- Structural Navigation: **4,7**
- Semantic Navigation: **2,3**
- Landmarks: **3,7**
- Information Overload: **2,3**
- Text Layout: **4,3**
- Interaction Placeholder: **2,7**
- Spatial Allocation: **3,7**
- Consistency of Page Structure: **3**

After that, the scores of the inspectors have been aggregated to provide an evaluation for each category.

Navigation

The navigation analysis is composed by evaluating five elements.

Average: (3 + 2 + 5 + 2 + 4) / 5 = 3.2

The mathematical average gives 3.2 as a result, which means that overall the navigation of the site is alright but not really well handled.

Content

The content analysis is composed by only one element, which represents the quantity and quality of the information displayed.

Average: 2

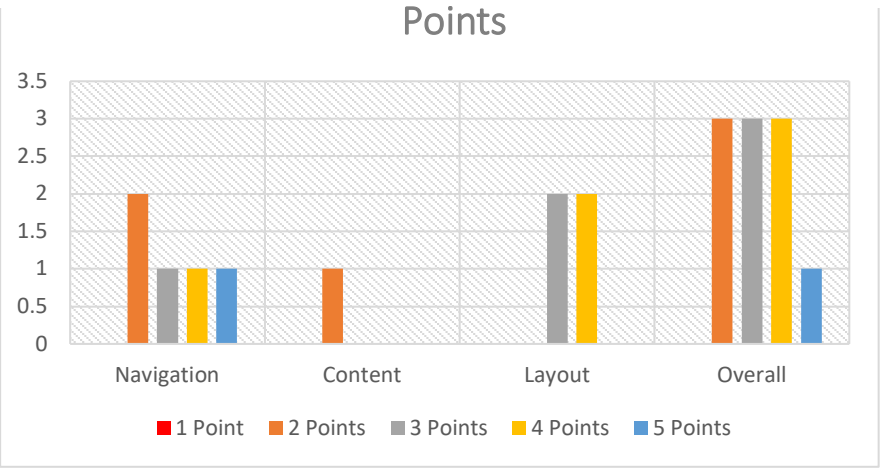
The mathematical average gives 2 as a result, that is the lowest of all the categories. This means that the content of the site is the part which compromise more the quality.

Layout

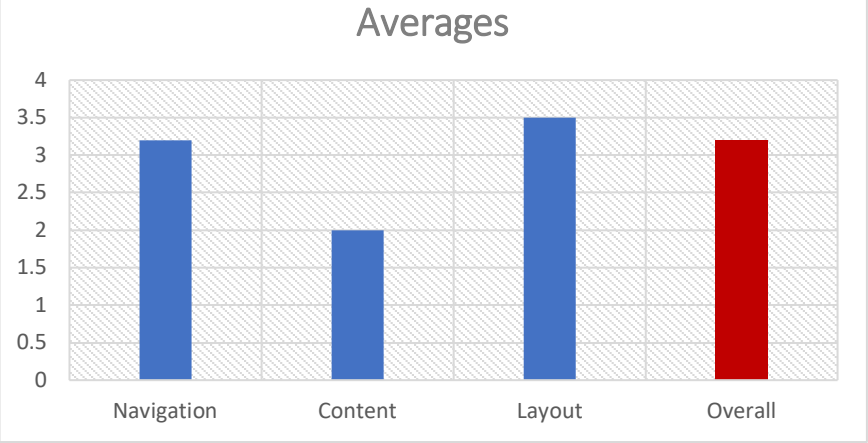
The layout analysis is granted thanks to four elements of evaluation, about the graphical and spatial quality of the webpages.

Average: (4 + 3 + 4 + 3) / 4 = 3.5

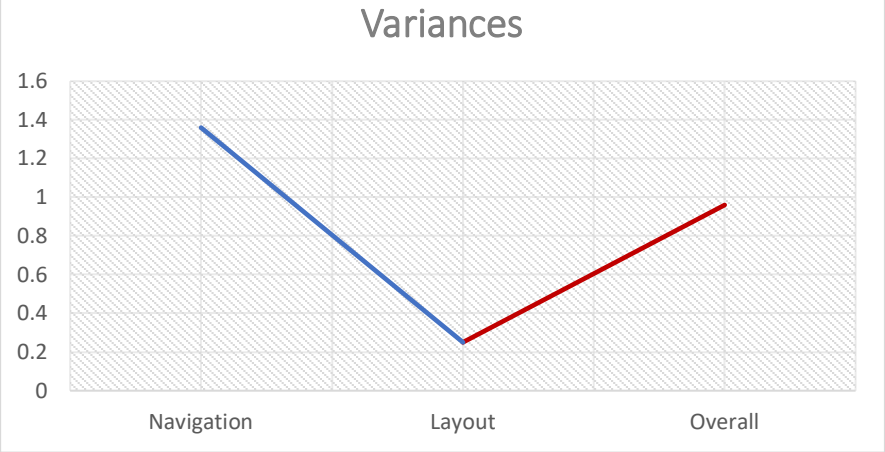
The mathematical average gives three dot five as a result, it is the highest result, so it is the best part the site.



Points graph represents how many times a certain score is assigned for every section of the heuristic and for the overall heuristic



Averages graph gives the average of the points of every section of the heuristic and for the overall heuristic



Variances graph gives the variance of the sections Navigation and Layout and of the Overall; about the Content it was not possible because we have only one data.

Variances allows us to understand how uniform the data of a certain section of heuristics and overall heuristics are.

5 – Discussion & Conclusion

For what concerns the layout the site presents an "old style"; it can be noticed especially if it is compared with more recent sites. However, the overall layout is appropriate and is the best part.
For what concerns the navigation we found out that in some pages there's no way to navigate from one topic to another without getting back to the introductory page.
Landmarks are provided in the top-bar and footer of each page even if they are not well designed. This category is alright but in general is not really well handled.
Instead, the most critical part is the content; in fact, we gave the lowest score because we found out pages where there were only few sentences or pages with too much information.

We identified most of the issues could solved with the following improvements:

- The use of a table of contents in the sub-page of the topic in order to make easier the navigation between groups and back and forth.
- Breadcrumbs with paths to the current navigation page of the user.
- Footer with more information, for example for each topic of the top-bar/navbar could be inserted the links to the main sub-pages and move the search tool in the header.
- The top-bar/navbar should follow the scroll of the page to make easier the navigation.
- More dynamic interaction contents like banners with images that change over time and a better element highlight when hovering with the mouse.
- Some promotional advices for users in order to encourage them to rent or buy something, such as a holiday, a course, a ski-pass, etc.
- Make texts and graphics homogenous with the content of the page with a clear distinction between title, heading and body of the text. A better choice for color and background could be made.

To sum up, the inspection was not an easy task for our group because it was the first time we did this kind of analysis. We usually do not focus too much on the user experience and usability when using an application or a website because we tend to reach our objective even if the application does not allow to do a task easily, a sort of hacker mentality.
Anyway, thanks to this task we fully understood the importance of design and usability in modern applications. Indeed, it feels better to use an application which support your actions, gives a sense of order and don't let you be frustrated or disorientated.
At the end, we are proud of the flaws we discovered thanks to our everyday experience with digital technologies and the understanding of quality principles, so called "heuristics", discovered in the course which gives us a reference framework to assess the usability level of a modern interactive application.
This approach gives us a different mindset when approaching problems in the computer science domain w.r.t. to an average developer.
Finally, to make this inspection we also searched and studied interaction design articles and researches, in particular focusing on valuable resources such as nngroup.com and interactiondesign.com.