

## **Hypermedia Applications (Web and Multimedia)**

Prof. Franca Garzotto



### **Usability Report: Inspection and User Testing of the Reply Web Site**

<https://www.reply.com/en/>

Federica Buccieri – ID 968132 – HCID, EIT Digital Master School  
Lorenzo Cocchia – ID 968139 - HCID, EIT Digital Master School  
Alessandro Corsini – ID 965163 - HCID, EIT Digital Master School

# Abstract

This document is intended to be a report of the evaluation of the usability of the website:

[www.reply.com](http://www.reply.com)

The owner of the site is [Reply](#), a company which offers to the market consulting, system integration and digital services. This document has been produced by the evaluators named in the cover. The evaluators had a crucial role in the production of the document not only because they wrote it, but also because they played an active role. Indeed, the first paragraph is about the inspection: the process aimed at evaluating the usability of the site through some types of heuristics, and that has been done personally by the evaluators, without involving any other external actor. The second paragraph is about the user testing: this process is aimed at evaluating the usability of a site through experiences proved by users that should use that site. To produce this document the evaluators needed to compile tables and take notes. The core of the report shows the collaborative effort of the evaluating team, while the individual analyses can be found in the rich Annexes section. In the end, there are two additional paragraphs: The “Final Conclusions” is aimed at summarizing what the results of the previous sections are and give a final evaluation of the site. The other, “Redesign suggestions” contains some design decision that could have been taken by the company, that the evaluators retain to be proper for the site and for its scope. Each phase describes the processes and decisions carefully. So, to gather more information about them, the reader can find further details in the appropriate section.

# Table of contents

<b>1. Usability Inspection .....</b>	<b>3</b>
1.1 Heuristics .....	3
1.2 Metrics .....	5
1.3 User Profiles and Scenarios .....	7
1.4 Execution of the Study.....	9
1.5 Results.....	10
1.5.1 Aggregated Results .....	15
1.6 Conclusion.....	16
<b>2. User Testing.....</b>	<b>18</b>
2.1 Design of the study.....	19
2.1.5 User Tasks.....	23
2.2 Execution of the Study.....	27
2.3 Results.....	27
2.3.1 Student .....	27
2.3.2 Worker .....	30
2.3.3 Post-Questionnaire results .....	33
2.4 Conclusions .....	36
<b>Final Conclusions .....</b>	<b>37</b>
<b>Redesign Suggestions .....</b>	<b>38</b>
<b>Annexes – Inspection .....</b>	<b>40</b>
A1 - Individual Evaluator's Inspection sheets.....	40
<b>Annexes – User Testing.....</b>	<b>60</b>
A2 – Evaluator Sheet for task recording.....	60
A3 – Task sheet for the Subject .....	61
A4 – User Testing Evaluator Sheets.....	68
A5 – User Testing Post-Questionnaire Data.....	81

# 1. Usability Inspection

The main goal of usability evaluation is to detect the majority of problems, obstacles and breakdowns for the user when interacting with a web application, given that usability is “the effectiveness, efficiency and satisfaction with which specified users can achieve specified goals in particular environments” (*ISO 9241-11*).

**Usability Inspections** methods is the generic name for a set of methods based on having expert evaluators analytically examine usability-related aspects of a user interface (*Nielsen & Mack, 1994*). This method is generally applied in the early development phase by evaluating prototypes or specifications for the system that can't be tested on users. Moreover, this evaluation technique is also considered cheaper because involves only experts and there is no need to recruit user and provide testing infrastructures. Instead, with respect to user-testing evaluation, usability inspection is more subjective, having heavy dependence upon the inspector's skills (*Matera et al., 2002*).

In this report, **Heuristic evaluation** is applied as an inspection method. Heuristic evaluation involves evaluators examining the interface and evaluating its compliance with recognized usability principles, the “heuristics”. During the inspection, heuristics guide the expert to explore the site and check compliance with usability principles.

## 1.1 Heuristics

The chosen heuristics are presented in this paragraph. Both Nielsen and MiLE Usability Heuristics have been chosen in order to provide a deep and complete usability inspection of the web site.

### 1.1.1 Nielsen heuristics

Acronym	Name	Definition
1	HN1	Visibility of system status
2	HN2	Match between system and the real world
3	HN3	User control and freedom
4	HN4	Consistency and standards
5	HN5	Error prevention

			confirmation option before they commit to the action.
6	HN6	Recognition rather than recall	Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
7	HN7	Flexibility and efficiency of use	Accelerators - unseen by the novice user - may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.
8	HN8	Aesthetic and minimalist design	Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
9	HN9	Help users recognize, diagnose and recover from errors	Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.
10	HN10	Help and documentation	Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

### 1.1.2 Mile heuristics

Acronym	Name	Definition
11	HM1	Interaction consistency The system is consistent in its entirety: similar patterns of interaction have similar semantics; similar pages have similar interaction capabilities. This heuristic is related to the general orientation of the user inside the system.
12	HM2	Group navigation The system provides an immediate navigation between different groups and between members of the same group.
13	HM3	Structural Navigation The system allows an easy navigation among the components that are structurally related to a certain topic (e.g., the topic and the date of a conference).

<b>14</b>	HM4	Semantic Navigation	The system allows an easy navigation among topics that are semantically related one to each other (e.g., the articles about AI and the articles about ML).
<b>15</b>	HM5	Landmark	The system offers a smooth navigation between all its components using landmarks as shortcuts to comfortably reach all the key parts of the web site.
<b>16</b>	HM6	Information overload	The system provides the user with a clear representation of the needed information. There is a significant visual distinction between relevant and non-relevant objects. Everything that is not relevant for the user at a certain point of the path is not displayed.
<b>17</b>	HM7	Text layout	The text is always readable, the font used is always coherent.
<b>18</b>	HM8	Interaction placeholders -semiotics	The interactive elements of the system are self-explanatory of their capability. Every visual element performs a predictable function.
<b>19</b>	HM9	Interaction placeholders - consistency	The interactive elements of the system are consistent, therefore everything that I learnt about the interaction paradigms with the system is not disattended.
<b>20</b>	HM10	Spatial allocation	The allocation of the components reflects an appropriate semantic (e.g., close elements are semantically related, distant elements are semantically distant)
<b>21</b>	HM11	Consistency of Page Structure	The system is visually consistent: pages of the same type have the same visual properties.

## 1.2 Metrics

The metric agreed among all the evaluators is based on an even scale ranging from 1 to 4. An even rating scale implies the absence of a neutral element, so the evaluators can express only positive or negative ratings. The evaluator is therefore forced to express an opinion. Thus, the expected results will present a clear outcome of the quality of the usability of the inspected web site.



Definitions of the score bands:

**1** = the heuristic is NOT satisfied; severe violations have been detected

**2** = the heuristic is applied in the WRONG way; violations have been detected

**3** = the heuristic is PARTIALLY satisfied; some minor violations have been detected

**4** = the heuristic is FULLY satisfied; no violations have been detected

**N/A** = heuristic not applicable



## 1.3 User Profiles and Scenarios

To better perform the inspection, two different user profiles have been identified. Here we present the user personas and the relevant scenarios associated to them.

- **First user profile:** Student looking for technologies and innovation related articles to be informed on such trends. Moreover, they could be interested in a job at Reply or look for information about the prestigious Reply challenges.

**Marco Rossi**



*'Stay hungry, stay foolish'*

Age: 23 y.o.  
Work: Student  
Status: Single  
Location: Milan, Italy  
Character: The Explorer

**Personality**

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

Curious
Ambitious
Focused

**Goals**

- Find a job in tech consultancy
- Develop a new Business Idea launching a startup
- Be acknowledge of the main technology innovation trends

**Frustrations**

- Difficulty to find a valid information source
- Student-friendly open work positions are difficult to find

**Bio**

Marco is a management engineering student with a strong passion for technology and innovation. While completing his master's degree at Politecnico di Milano, Marco would like to acquire knowledge of the working reality and he is looking for his first job. Marco is a dynamic person, curious and likes to read a lot, always informed about news and innovation.

**Motivation**

Incentive		
Fear		
Growth		
Power		
Social		

**Brands & Influencers**





**Preferred Channels**

Traditional Ads		
Online & Social Media		
Referral		
Guerrilla Efforts & PR		

### Scenario 1

Marco Rossi is a student that is really passionate about Machine Learning. For this reason, he wants to spend his free time, searching for interesting articles about new development in the machine learning field. Therefore, he opens up his browser and navigate to the Reply website. He explores the various topic, navigating to the “Artificial Intelligence & machine learning” section. Then he is redirected to a page full of articles that he can look up and find news about the sector.

### Scenario 2

Marco Rossi is a student that is about to finish his Master Thesis in Management Engineering. The thesis topic is about how to enhance customer relationships between firms and clusters of customers by means of new innovative technologies. To complete his thesis, Marco read a lot of articles published by Reply and he found them really interesting, so much so that he is now looking forward to joining Reply. For this reason, searching on the website, he clicks on the “join” tab to search for available positions in his country.

- **Second user profile:** Company manager looking for new solutions to include in the value proposition of her industry.

## Margherita Bianchi



*"To lead people, walk behind them."*

Age: 45 y.o.  
Work: Manager  
Status: Married, 2 kids  
Location: Milan, Italy  
Character: The Sage

### Personality

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

Leader    Ambitious    Perseverant

**Goals**

- Improve her company IT services
- Stay ahead of competitors thanks to innovations
- Be acknowledge of the main technology innovation trends

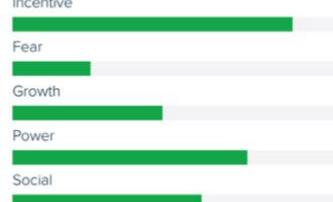
**Frustrations**

- Difficulty to understand know-how of the different tech consultancy providers
- Innovation speed is not easy to follow with a full time job

**Bio**

Margherita is a Manager of a major company that exploit new technologies to provide a better customer service to their customers. Margherita however, has not a strong IT background so she does her best to always stay on touch about innovations.

**Motivation**



Incentive  
Fear  
Growth  
Power  
Social

**Brands & Influencers**



**Preferred Channels**



Traditional Ads  
Online & Social Media  
Referral  
Guerrilla Efforts & PR

### Scenario 3

Margherita Bianchi is a manager working for a company in the automotive industry. Her company really cares about innovation and she is in charge of discovering new solutions to include in the company offering. For this reason, Margherita is evaluating different IT consulting services and lands on the Reply website. Looking around the web site, Margherita discovers all the know-how of the company, deciding to schedule a meeting with the Reply team to start a collaboration with Reply.

### Scenario 4

Margherita Bianchi is a manager working for an IT consultancy firm. Margherita's company is one of the main rivals of Reply. She wants to acquire a better understanding of what her competitors are working on at the moment, so she is considering the innovations that Reply is proposing in its articles. To do so, she searches through the "Digital Experience" tab to explore the section based on the main services provided by her company.

## 1.4 Execution of the Study

This section is about how the work has been prepared and then executed. Firstly, we considered was understanding the scope of the site and possibly what the user profiles that the firm was trying to reach were. Regarding the scope it seems that the company uses its platform to present all the possible technologies with their descriptions and applications. By doing so, it is possible that an interested customer can easily discover how an innovative solution, provided by Reply, can be applied in the industry in which the customer works. On the other hand, regarding the user profiles, as already explained we identified two distinct user profiles.

Secondly, after having defined the heuristics to use and the metrics, we discussed some possible scenarios that the user could make and finally we prepared the form to compile during the inspection. Just before the inspection phase, we discussed how many pages were to be inspected. Obviously, the more pages the better the result, however we decided to fix a number of pages for each sections tab anyway:

- Topics: at least 3
- Industries: at least 3
- About tab:
  - About: at least 1
  - Investors: at least 1
  - Newsroom: at least 1

Spending at least 3 hours on the inspection, without considering the time to fill the form.

Finally, the inspection was, at first, conducted individually by each inspector (find each inspection sheet in section A1) and then the sum of results is presented in the following section.

Note that in this form you can find a dimension assigned to the Nielsen's heuristics. This categorization is made by the evaluators, to have the results in a more aggregated way, grouping the heuristics across the Nielsen and MiLe's ones. In the next section, you can find the main topics discussed during the meeting that we had after having filled individually the forms, the results of it, and some brief analysis of the information we mined in an aggregated way.

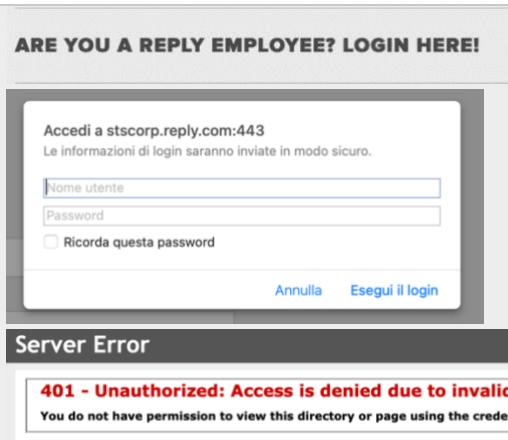
## 1.5 Results

Here we show the final results that we reached after having inspected individually the site. The reader can find the tables completed individually in the annexes [A.1].

Category	Heuristic	Score	Comment
Navigation	<b>HN1</b>	2	<p>The visibility of the system status is not always available and in general this heuristic is mostly violated.</p> <p>Starting from the Home Page, when scrolling down the page there is no reference to the current location of the user and since the pages are quite long in average, this counts as a major violation of the heuristic. Moreover, the bread crumb system is poorly implemented. As shown in <i>Figure 2.3</i>, navigation tabs correctly highlight the selected tab but then, the bread crumb implemented only shows the sub-section and not the related article that the user is reading, for example. The space remaining in the left part of the object also suggests some different functionality that is not really implemented. If the user clicks another sub-section, it will appear as a new page with a completely new bread crumb, deleting the last opened. We would have expected that a new bread crumb would have appeared next to the one in the page but there are some other problems. A user would expect that clicking it they could access a page which contains information related to the general tab-topic, but the element is not clickable. Then, clicking on the 'X' after the section name, the user is redirected to the Home Page without any criteria.</p> <p>It has to be said also that once a user logs in to the site, it remains always logged-in except for the webinars' section. This is another severe violation.</p> <p>Another disturbing thing in terms of visibility of the navigation status is the fact that frequently, an article opens in another tab of the browser.</p> <p>A correct implementation is instead present in the loading phase and in the navigation tabs. (<i>Figure 1.2</i>, <i>Figure 2.5</i>)</p>
Presentation	<b>HN2</b>	3	<p>The language spoken is often familiar to the user. A person who is new to the technological topics could find it hard to understand the articles, but we assumed that those are not the targeted users, and do not affect the heuristic. Symbols and icons are used very well especially in the cases of the presence of a calendar: we spotted it in the webinars' section, <i>Figure 1.4</i>, and in the homepage, <i>Figure 2.8</i>. As the reader can see from the <i>Figure 2.9</i> and <i>Figure 2.10</i> the site uses well the note icon and the sharing icons. If not for a severe violation of the heuristic, this mark would be 4. The severe violation is that a user which is not proficient in English cannot orient themselves inside the site. Indeed, changing the language, the navigation bar remains in</p>

			English, and someone who does not know very well the meaning of the words could not find the content desired.
Navigation	<b>HN3</b>	2	<p>The freedom of the user is not always implemented at a sufficient level, here are some examples:</p> <ul style="list-style-type: none"> <li>• If the user clicks on a macro-section of the upper bar, the list of the microsections remain always visible and the user has to click again on the same macro-section to make it disappear. It is not very intuitive and it is uncomfortable if the user miss-clicks (<i>Figure 1.5</i>).</li> <li>• Going to the “Careers” section, if the user selects a certain country (for example UK) and continues further the process, then there isn’t an easy and immediate way of changing the country without restarting the whole process.</li> </ul>
Presentation	<b>HN4</b>	2	<p>Most of the symbols and the terminology used in the website is standard but some violations have been detected:</p> <ul style="list-style-type: none"> <li>• When the user is logged in, he has the possibility to save articles. The Save Button however does not immediately convey the correct meaning both before and after saving. (<i>Figure 1.6</i>)</li> <li>• Read more buttons keep the same label both when showed and when clicked (<i>Figure 2.11</i>, <i>Figure 2.12</i>). Maybe a differentiation between “Read More” and “Read Less” would have been optimal. We noticed instead that Arrows are used to produce the same “read More” effect but in this case the arrow correctly changes. (<i>Figure 2.13</i>, <i>Figure 2.14</i>)</li> <li>• The terms “Contact us” or “Get in touch” convey the same meaning but they are presented differently (<i>Figure 2.15</i>, <i>Figure 2.16</i>)</li> </ul>
Content	<b>HN5</b>	1	<p>The website does not prevent severe errors that the user can run to.</p> <p>One of the most important is the user’s profile update. When changing some user information and then clicking the button save, no confirmation message appears. This can lead to an accidental password change that can affect the usability of the whole website. (<i>Figure 1.9</i>)</p> <p>Another mistake is the handling of the search by keyword mistakes. As shown in <i>Figure 2.17</i>, <i>Figure 2.18</i>, <i>Figure 2.19</i>, automatic correction of the search keywords does not suggest the correct visualization of the desired results. Regarding Search, also “<i>Tips for search</i>” is useless and produces a redirection to another page, not even managed by Reply. (<i>Figure 1.8</i>)</p> <p>Moreover, during registration, there is not a correct indication about the password prerequisites that the user can follow to avoid mistakes.</p>
Content	<b>HN6</b>	1	This heuristic is in general implemented in a very bad way in the whole website, some severe violations are reported:

			<ul style="list-style-type: none"> <li>The “search” function of the site doesn’t suggest anything when searching for something, so you have to remember exactly the titles of the articles that you are searching. Moreover, the search doesn’t remember what you have searched in the past.</li> <li>In the results of the search the fact that a certain article has been saved by the user in the past is not highlighted in any way.</li> <li>The bread crump doesn’t work at all, therefore remembering where a certain article was located is in general very difficult (<i>Figure 1.10</i>).</li> <li>The user that has not logged in cannot save the articles, so they have to remember exactly the path to reach the article.</li> <li>When the user searches some events on the calendar there is no way of going back to the dates that the user has searched before.</li> </ul> <p>An example of good design is shown in the Figure 1.12, but it is irrelevant compared to the violations we have found.</p>
Navigation	<b>HN7</b>	3	<p>This heuristic is in general well implemented, however everything related to the navigation cannot easily reach the maximum score due to the severe violation on the bread crump. Here are some relevant factors:</p> <ul style="list-style-type: none"> <li>The upper bar is well organized and is very useful to navigate from one section to another very easily (<i>Figure 2.21</i>).</li> <li>The logged user can save the articles so that every saved article is easily reachable from the user profile page.</li> </ul>
Presentation	<b>HN8</b>	3	<p>Generally, the amount of information contained in each dialogue or in each article is relevant and correctly displayed. On the other hand, we discovered some minor violations to the minimalistic design heuristic: The Home Page contains a lot of information that is not really necessary (for example articles dated 2018 are present). This page should be revised as well as other really long pages that contain too much information.</p>
Content	<b>HN9</b>	1	<p>The error handling is almost always very bad, with severe violations:</p> <ul style="list-style-type: none"> <li>If the login fails, a general message is shown to the user who is not informed whether the error refers to the email or to the password (<i>Figure 1.14 - Figure 2.22</i>).</li> <li>Sometimes, when you search something “wrong” using the search function of the site an insignificant error is shown to the user (<i>Figure 1.13</i>)</li> <li>A very bad error occurs when trying to log in the site on the section of webinar, if you try to login but then click on “Annulla” the 401 error occurs without any reason because you just wanted to go back to the previous page without logging.</li> </ul>

			 <p><b>ARE YOU A REPLY EMPLOYEE? LOGIN HERE!</b></p> <p>Accedi a stscorp.reply.com:443 Le informazioni di login saranno inviate in modo sicuro.</p> <p>Nome utente Password <input type="checkbox"/> Ricorda questa password</p> <p>Annulla Esegui il login</p> <p><b>Server Error</b></p> <p><b>401 - Unauthorized: Access is denied due to invalid credentials.</b> You do not have permission to view this directory or page using the credentials that you supplied.</p>
Content	<b>HN10</b>	N/A	This heuristic is not useful to evaluate the site because we don't think that any type of documentation is needed to support the information embedded in the structure of the site.
Navigation	<b>HM1</b>	3	The interaction of the articles is often peculiar to the article itself and does not seem to follow any interaction paradigm even if the articles can for example share the macro-section. The reader can see in the <i>Figure 2.23</i> compared with <i>Figure 2.24</i> , or <i>Figure 3.3</i> with <i>Figure 3.4</i> , examples of pages that seem to belong to the same tab Topics but have very different interaction paradigms and organization of the contents inside the page. In our opinion, this fact does not affect the general orientation inside the site significantly, making the overall navigation consistent.
Navigation	<b>HM2</b>	3	The top navigation bar is well designed and organized. For this reason, it supports the navigation among the groups. Regardless, we find hard to award a full score to this heuristic since the bread crumbs are not well-designed and even counter intuitive. Those should accelerate and support the navigation among the groups, but they are not.
Navigation	<b>HM3</b>	3	General organization is coherent and divided in groups and sub-groups. On one hand, events are presented ordered by date such as Webinars. On the other hand, inside each category, the navigation among different articles is confusing: exploring topics (or industries) sub-group, for example, you can find articles, video, link to other platforms and they are all mixed up. ( <i>Figure 1.16</i> )
Navigation	<b>HM4</b>	3	Thinking about the general navigation, the navigation is fully supported thanks to the navigation bar which differentiates between topics, industries, join and about. However, the homepage makes the semantic navigation quite counter intuitive since there are many semantically different topics, this is perhaps more a result of the overload of the page (see heuristic HM6) more than a violation of this heuristic. Indeed, we did not find appropriate to give a score below than 3 since the semantic navigation is quite supported.
Navigation	<b>HM5</b>	4	All the relevant Landmarks are always present and visible.

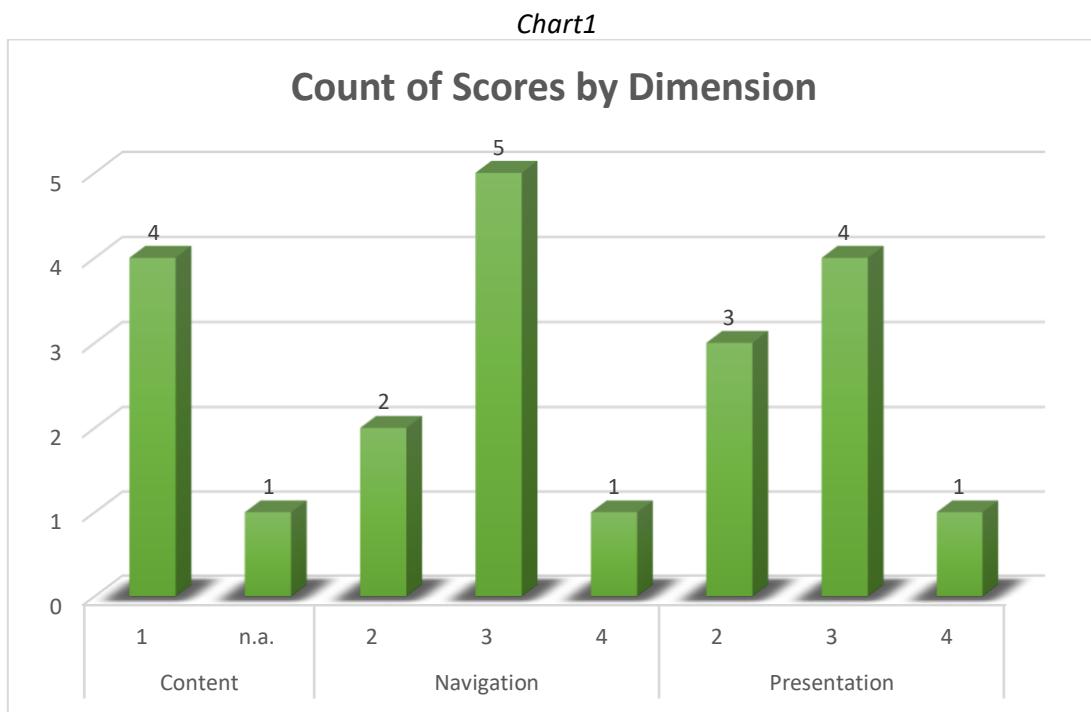
Content	<b>HM6</b>	1	The total violation of the heuristic is maybe the very first thing that we noticed watching the site. Indeed, especially the first touchpoint of the site, the homepage, is overwhelmed by so much content that it is not feasible that someone really arrives to the end to the homepage to find an article. Which begs the questions: Why is there so much information? Why are there so many articles, additionally dated up to 2018? Would it not be better if, other than some fresh news, they do not maintain anything in their homepage maybe supporting better the navigation to those 2018 articles? Other than the quantity of the information, and of the “particular” case of the homepage, even in the others’ there is a positioning of the articles that would suggest some sort of relevance relation between them. However, we did not find appropriate this distinction, the articles actually do not seem to be more or less relevant. After a while, we understood that maybe the relevance was given by the publishing date, but if this is the case, this should be made more explicit and intuitive.
Presentation	<b>HM7</b>	4	In <i>Figure 1.18</i> the reader can see some really minor mistake, but the adopted text layout seems to be carefully selected for each screen of the page, with a particular attention to the little details.
Presentation	<b>HM8</b>	2	This heuristic is sometimes respected, however there are many of examples that express the severe violations of this heuristic in the site: <ul style="list-style-type: none"> <li>• The “x” placed next to the text that indicates where the user is located inside the website makes the user return to the homepage and this result is completely unexpected for a new user.</li> <li>• Another significant example is shown in <i>Figure 1.19</i></li> <li>• The logged user can save the articles however we think it is almost impossible to understand that this functionality exists (<i>Figure 1.20</i>).</li> </ul>
Presentation	<b>HM9</b>	3	In the large majority of the cases the interactions are consistent inside the whole website, however there are some exceptions: <ul style="list-style-type: none"> <li>• In <i>Figure 1.21</i>, clicking on “Architecture”, the user is redirected to a Search by keyword while instead expectations are to land on the Topic “Architecture” page.</li> <li>• Mistakes highlighted about “Contact us” or “Get In touch” can be confused. (<i>Figure 2.15, Figure 2.16</i>)</li> </ul>
Presentation	<b>HM10</b>	3	The heuristic is generally respected with some minor violations. <ul style="list-style-type: none"> <li>• The homepage didn’t convince us in its structure, the dimension and the position of the blocks in the homepage seems to have no meaning at all.</li> <li>• However, the upper side of the site is well organized: everything related to the navigation has been put on the left side, distant from every other thing.</li> </ul>

Presentation	<b>HM11</b>	2	<p>Most of the pages and in general the website is organized coherently following the same structure. Pages are semantically very similar. But we also reported some severe violations to this heuristic:</p> <ul style="list-style-type: none"> <li>• As mentioned in <i>Figure 3.3</i> and <i>Figure 3.4</i>, two pages of the same type offers different navigation paradigms and so different structures.</li> <li>• Layouts can be very different from one “Topic” section to the others.</li> </ul>
--------------	-------------	---	---

### 1.5.1 Aggregated Results

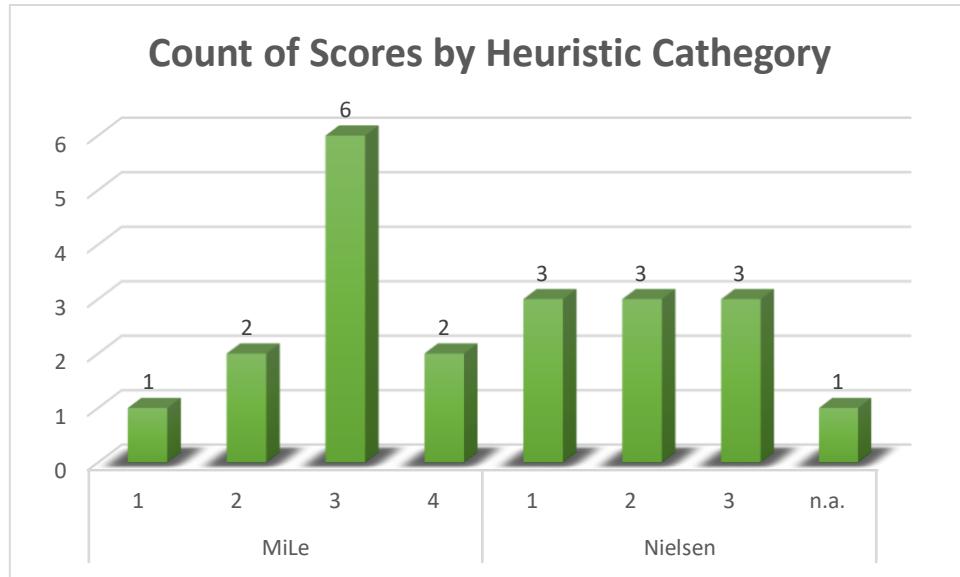
In this section the reader can find the results of the inspection mined in an aggregated way. One important thing to point out is that the MiLe heuristics were categorized between dimensions, while the dimensions on the Nielsen’s heuristics were assigned by us. This categorization surely affects the data mined, but we retain that the result that we produced has more aggregated data and allows a comparison across the MiLe and Nielsen’s heuristics. You can find the spreadsheet document that we used [in this link](#).

The *Chart1* is about the count of how many times a certain score has been given, dividing the count among the different dimensions.



The *Chart2* counts how many times the scores have been assigned to the heuristics, dividing them between MiLe and Nielsen’s ones.

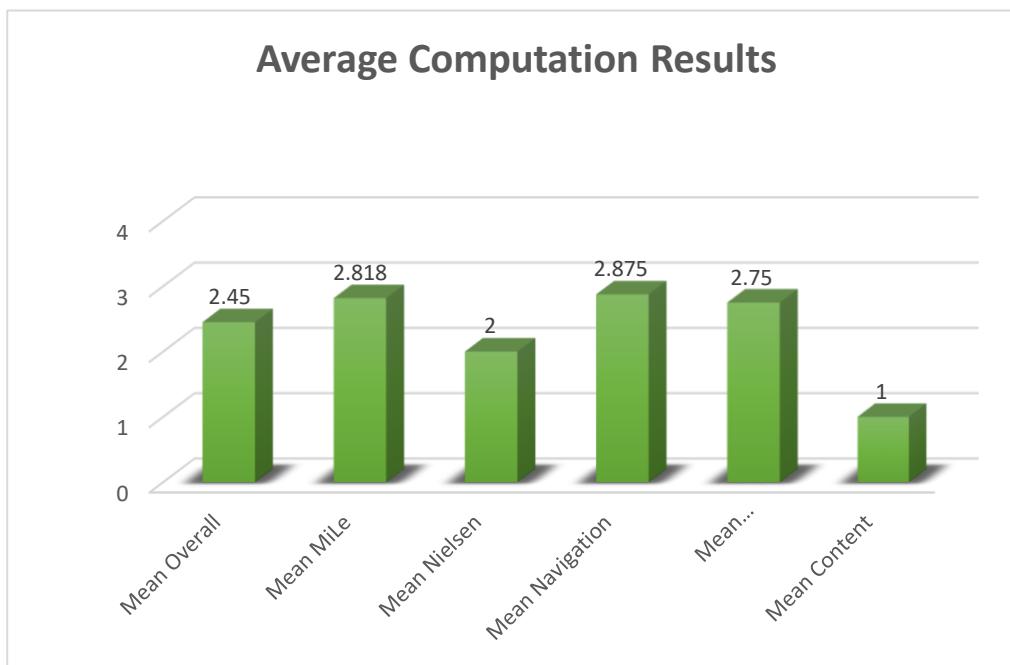
*Chart2*



The Chart3 is the representation of the computation, the arithmetical averages, made on the data. Indeed, the reader can find the average of the scores computed for all the heuristics and many other arithmetical averages computed across:

- MiLe heuristics
- Nielsen heuristics
- Navigation dimension
- Presentation dimension
- Content dimension

*Chart3*



## 1.6 Conclusion

We observed some problematic issues that can be pointed out by the data, indeed, this may cause some eyebrows to be raised by the reader. The reader can easily see in the *Chart1* that for the heuristics with a Content dimension, we assigned only 1. Looking at the definitions of the involved heuristics this can mean that we spotted some severe problem with the error prevention, handling and stressing the user's recall capabilities rather than the recognition. These are added to the total information overloading: problem

exposed clearly from the beginning of the homepage and arriving to the other pages. Again, in the *Chart1* the reader can see that we decided to assign two 4 scores: one to a Navigation-related heuristic and one to a Presentation one. This spotlights the strengths of the site: a meticulous attention to the layout details and to the design of the navigation through the navigation bar. Talking about Navigation it is impossible to avoid citing the badly designed bread crumbs which are probably the cause for which we assigned five times a 3 score, and not 4, to a heuristic under a Navigation dimension. After having watched at the average scores in the *Chart3*, we noticed an interesting thing. Indeed, we assigned higher scores to the MiLe heuristics, mean score of 2.818, rather than the Nielsen ones, mean score of 2. This can be seen even in the *Chart2* looking at the extreme scores: we did not assign any 4 score to the Nielsen heuristics and we assigned three times 1. This started an interesting discussion inside our group about the nature of the two types of heuristics. We concluded that the results are in this way probably because the Nielsen heuristics have a point of view more related to functional capabilities, while the MiLe ones seem to be more related to visual aspects, more related to the look-and-feel aspect, or at least this is how we interpreted the two categories of heuristics. Lastly, is that in any case the overall average score is of 2.45 which is a score very close to 2.5, the middle of our range of scores. This means that the site is quite usable: with some strengths, and some other weaknesses. In our opinion, there is some work to necessary to improve the usability of the site.

## 2. User Testing

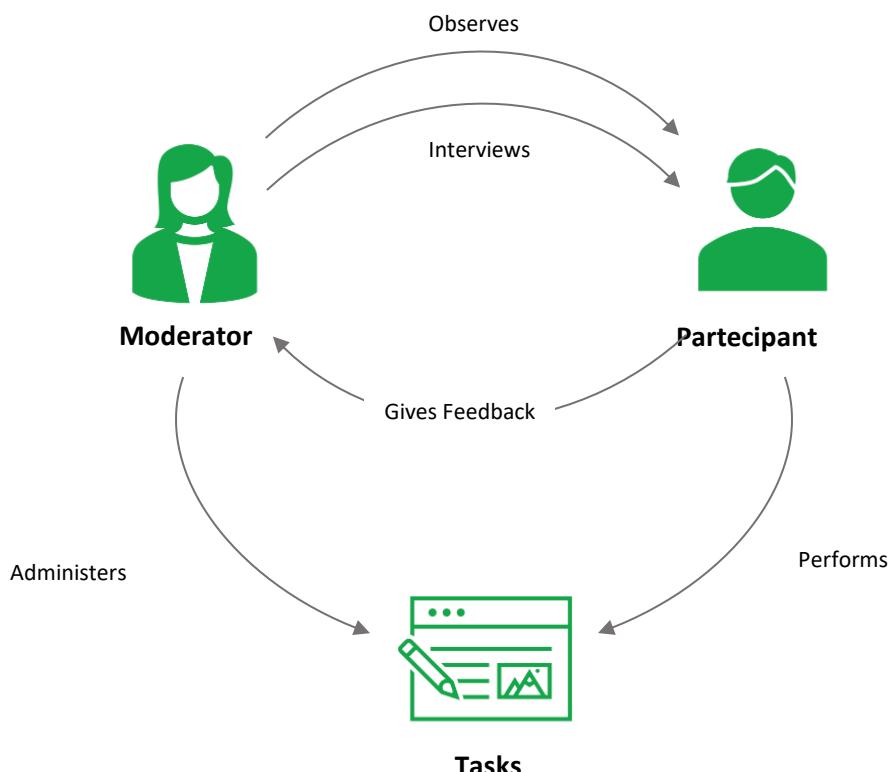
Usability testing refers to evaluating a product or service by testing it with representative users. In a usability-testing session, a researcher (called a “facilitator” or a “moderator”) asks a participant to perform tasks, usually using one or more specific user interfaces. The phrase “usability testing” is often used interchangeably with “user testing.”

While the participant completes each task, the researcher observes the participant’s behaviour and listens for feedback. The main goals of user testing are identifying problems in the design of the product or service, uncovering opportunities to improve, and learning about the target user’s behavior and preferences.

During a usability test, you will:

- Learn if participants can complete specified tasks successfully
- Identify how long it takes to complete specified tasks
- Find out how satisfied participants are with your Web site or other product
- Identify changes required to improve user performance and satisfaction
- Analyze the performance to see if it meets your usability objectives

### User Testing: Flow of information



## 2.1 Design of the study

In this section we analyse the general goals of the study, the differences between the inspection and the user testing and so the need to perform both tests in order to evaluate in a proper way the usability level of the website. Then we precisely define the metrics and variables used during and after the test to evaluate the results, trying to agree on some evident behaviours of the user that to define qualitative metrics.

In the end we clearly describe the tasks that each type of user profile should perform during the test.

### 2.1.1 Test goals

In this case the user testing is not the only way of evaluation of the website as it is performed after the inspection, as a consequence some of the good points of the website are known as well as the violations of the different considered heuristics.

At this point we, as inspectors and moderators of the user testing, have designed the different tasks that have to be performed by the users in a way that can lead to a stress of the different criticisms of the website while paying attention at always considering realistic tasks with respect to the considered user.

In fact, the most important thing to take into consideration is that, although both the inspection and the user testing are aimed at evaluating the usability of the website, their purposes are different in the sense that the inspection is a formal evaluation of theoretical design concepts, however, the user testing is the evaluation of the real experience provided by the website to the users.

As a consequence, the user testing depends on a huge number of external factors, not directly related to the website itself:

- The average quality of a general website, which is the quality to which a generic user is used to.
- The average quality of the websites in the field of the tested website. It is known that the reactions of a person are commensurate to the expectation of the person themselves.

So, the user testing is aimed at weighing the violations found during the inspection, rebalancing some violations that don't affect the real usability of the website and even considering new factors that negatively affect the usability that weren't considered in the heuristics selected in the inspection.

## 2.1.2 User profile, goals and recruit

As previously mentioned in section 1.3 *User profiles and Scenarios*, we identified two main user profiles:

1. **User profile 1: Students** attending bachelors or master courses related to IT, innovation, technology, communication and management.
2. **User profile 2: Workers**, employees or eventually a manager who has the responsibility to take decision inside the organization.

Moreover, we set some constraints to apply to those user profiles.

For students we will consider both male and female users between 18 and 25 y.o. attending both a bachelor's and a master's degree. In particular we will look for students enrolled in Computer Science Engineering, Management Engineering, Telecommunication Engineering, Data Science and Human-Computer Interaction & Design.

For workers we will consider both male and female users between 20 and 60 y.o. with a relevant working position in a company working in the IT field or related. In this case, our attention will be focused on users with a good understanding of the interaction with a web page, that usually consults similar websites or work habitually with the computer.

To conclude, for each of those profiles we defined some general user goals to segment Reply web site target audience and better recruit users.

### 1. User profile 1 goals

- Find a job in tech consultancy or related IT field, in this case became a Replyer.
- Be acknowledged of the main technological trends and innovations.
- Find interesting events, webinars and news to improve personal skills and knowledge.

### 2. User profile 2 goals

- Discover, understand and compare IT services and innovations offered by Reply with its company ones.
- Stay ahead of competitors thanks to innovations.
- Be acknowledged of the main technological trends and innovations.
- Discover about the knowhow of Reply and eventually make contact with the company.
- Explore competitor's knowledge in case the user company is a direct competitor of Reply.

Here you can find some basic information about the six selected users:

1. Galluzzo, Monica | Female | age: 48 | Palermo | Freelance
2. Marco Bucchieri | Male | age: 54 | Palermo | Unit Chief , Enel Italia S.p.a, Lazio and Sicily
3. Umberto De Francesco | Male | age: 22 | Lecce | Management Engineering Student
4. Claudio Cocchia | Male | age: 53 | Siena | General manager for the province of Siena, Generali Assicurazioni
5. Franco, Marco | Male | age: 22 | Lecce | Student
6. Trisolino, Gabriele | Male | age: 24 | Lecce | Student

### 2.1.3 Variables and Data

Among the usability variables that are measured during the usability testing sessions, we considered both quantitative and qualitative indicators as defined:

#### Quantitative indicators

Name	Description	Formula
Effectiveness	This term refers to the accuracy and completeness of the user goal achievement. Defined also as the task success rate.	$\frac{\text{number of completed tasks}}{\text{total number of tasks}}$
Efficiency	Refers to the resources exhausted by users in order to ensure an accurate and completed achievement of the goals. Defined as the average time needed to complete a task.	$\frac{\sum \text{time to complete the task}}{\text{total number of tasks}}$
Errors	This indicator provides an idea about the average number of times where an error occurred per user when performing a given task. An error is defined as a wrong action or a wrong path followed while performing a task.	$\sum \text{errors of each user per tasks}$
Perceived tasks difficulty	Refers to the subjective thoughts of the user regarding the level of difficulty encountered while performing the task.	A scale from 1 to 5 1: Very easy 5: Very difficult

#### Qualitative indicators

Name	Description	Formula
Frustration and Disorientation	Refers to the subjective feelings of frustration, disorientation of the user while performing each task. This indicator takes into account needed stops, waiting periods and wandering periods.	A scale from 1 to 5 1: Very comfortable 5: Very frustrated
Unexpected behaviours	Refers to the observed unexpected behaviours that deviate considerably from the expected path.	A scale from 1 to 5 1: Linear behaviour 5: Totally unexpected behaviour
Unsatisfaction	Refers to the subjective thoughts of the user regarding their attitude, level of comfort, relevance of application and the acceptability of use.	A scale from 1 to 5 1: Very satisfied 5: Not satisfied at all
Disengagement	This indicator provides the level of engagement experienced by the user while performing each task.	A scale from 1 to 5 1: Very engaged 5: Very disinterested

### 2.1.4 Material for data collection and SW&HW settings

After all the variables to measure have been defined, we prepared the evaluator sheet to gather data during the test sessions. An example of the Evaluator Sheet used is provided in the Annexes, [[A 2.1](#)].

Moreover to better organize the qualitative data and the perceived level of difficulty of each task, we prepared another evaluator sheet (see [[A 2.2](#)] ).

In order to present the tasks to the users we prepared two different Google Forms, one for each user profile. The reader can find them attached in the annexes [A3]. In this way we hope to gather more immediate data and to engage more the user with an interactive sheet. This Google Form also contains the Post-Test Questionnaire that each user has to complete right after the testing activity [A3.3]. All the Google Forms are written in Italian to help the recruited users to better understand the requirement since not all the participants speak English.

Here all the Google Forms link are reported for a better availability:

1. Task Sheet, User Profile 1: Student – *link: <https://forms.gle/R2D55rMu4bVCwJ2r8>*
2. Task Sheet, User Profile 2: Worker – *link: <https://forms.gle/u37MQBp7CTe6aTAFA>*
3. Post-Test Questionnaire: available at both the previous links.

For what concerns Software and Hardware setting, we opted for an informal setting. Fortunately, we were able to find available users that the evaluators could meet in person, without any restriction due to the actual pandemic situation.

For this reason, each user is equipped with a laptop provided with a Screen Recording software, an internal microphone and an external device, such as smartphones or video cameras, provides video recording of the whole test.



*Figure: Example of user testing informal SW&HW setting*

## 2.1.5 User Tasks

Here are described the different user tasks to be performed by each user profile. Each task has been written with the aim of describing a short scenario in which the users can put themselves so that they have clear in mind the goal of the task and act in a more realistic way.

- **User profile 1: Student**

#1.1	Definition
<b>Task definition</b>	You are a very passionate student, so you want to find some information to keep up to date on a specific topic. Visit a generic article related to Mixed Reality and one about Cloud Gaming.
<b>Expected correct path</b>	Homepage → topics → Augmented & Virtual Reality → HoloLens case study → read something in the article → topics → Game & Gamification → How 5G will shake up the gaming world → read something in the article
<b>Possible errors</b>	<ol style="list-style-type: none"> <li>1. Scrolling the homepage in search for an article related to a certain topic, search the article about the cloud gaming on the Cloud computing topic</li> <li>2. Click on a tab which is not “Topics” or “Industries”</li> <li>3. After having clicked the Topic, click a topic which is not “Augmented &amp; Virtual Reality” or “Game &amp; Gamification”</li> <li>4. After having reached the right macro-section page, namely “Augmented &amp; Virtual Reality”, opens an article not related to “Mixed reality”</li> <li>5. After having reached the right macro-section page, namely “Game &amp; Gamification”, opens an article not related to “Cloud gaming”</li> </ol>
<b>Time expected</b>	8 mins

#1.2	Definition
<b>Task definition</b>	In two days you will have an exam. You know that your professor is very into e-commerce, find and read two case studies related to this topic.
<b>Expected correct path</b>	Homepage → topics → Ecommerce → case study → read something in the case study → back to ecommerce → case study → read something about the case study
<b>Possible errors</b>	<ol style="list-style-type: none"> <li>1. Making the wrong choice in the drop-down menu related to Topic. Any choice different than “e-commerce” is to be considered an error.</li> <li>2. Opening articles or other contents without the “Case Study” wording.</li> <li>3. Landing on different websites pages according to different sites that the articles are linked to</li> <li>4. Changing the tab after looking at the first article.</li> <li>5. Searching the articles using the search function and opening more than 5 articles trying to guess which one is a case study.</li> </ol>
<b>Time expected</b>	8 mins

#1.3	Definition
<b>Task definition</b>	You are searching for a cool challenge to participate to. Find the latest challenge proposed by Reply and report the date, time of the Event and the winning price.

<b>Expected correct path</b>	Homepage → click on a challenge visible in the homepage → scroll till the end of the page where you can find a list of some of the latest challenges of Reply → scroll up to the beginning of the page → search the requested info
<b>Possible errors</b>	<ol style="list-style-type: none"> <li>1. Reporting information on a challenge that is not the last one.</li> <li>2. Providing wrong information about the data asked</li> <li>3. Going on the outgoing links of the reply website dedicated to the challenges</li> <li>4. Searching for event (through the Event tab) and clicking on an unrelated type of event</li> </ol>
<b>Time expected</b>	5 mins

#1.4	<b>Definition</b>
<b>Task definition</b>	You have just passed the IoT exam, find and collect some info about a webinar related to it that took place on the 15/02/2021.
<b>Expected correct path</b>	Homepage → about → webinars → past webinars → topic > Internet of Things → click on the webinar named “Predictive and proactive maintenance of a Connected Vehicle”
<b>Possible errors</b>	<ol style="list-style-type: none"> <li>1. Starts the research without logging in</li> <li>2. Click a tab which is not “About”</li> <li>3. Once clicked, or hovered above, the tab “About”: click on a macro-section which is not “Webinars”</li> <li>4. Once the “Webinars” page is open, does not click on “Past webinars” and starts to search for webinars</li> </ol>
<b>Time expected</b>	8 mins

#1.5	<b>Definition</b>
<b>Task definition</b>	You want to make a work experience inside Reply. Find some info about the job profiles that are available in the UK. Then find a way to apply for an internship into Reply (arrive at the point where you have to send an email)
<b>Expected correct path</b>	Homepage → Join → Go to careers → UK → Search now → read all the possible career opportunities → About → About → Careers → scroll to the end of the page → click on “Apply for an internship”
<b>Possible errors</b>	<ol style="list-style-type: none"> <li>1. Choosing a different tab other than Join or About -&gt; Career</li> <li>2. Choosing a different country rather than UK in the country selection in the Join section</li> <li>3. Clicking on buttons not related to explore jobs position (like on the social section of the page)</li> <li>4. Selecting a job position different from an internship opportunity</li> <li>5. Clicking on “Send US your CV” without reasons or particular comments.</li> </ol>
<b>Time expected</b>	12 mins

- **User profile 2: Worker**

#2.1	<b>Definition</b>
<b>Task definition</b>	You are carrying out an in-depth analysis of innovative solution in your business area. This analysis is going to last around two weeks, so you need to

	save some relevant contents. Login and save two articles related to your industry.
<b>Expected correct path</b>	Homepage → Industries → Retail & Consumer products → select an article → read the article → click on the back button of the browser → click on the icon of Reply in the bar of the share → select and read another article → click on the back button of the browser → click on the icon of Reply in the bar of the share
<b>Possible errors</b>	<ol style="list-style-type: none"> <li>1. Choosing a different tab other than an Industry related one (it depends on the industry area of the tester)</li> <li>2. Saving the article off-line without exploiting the saving button of reply</li> <li>3. Saving two times the same article</li> <li>4. Unsaving an article clicking on the button two times</li> </ol>
<b>Time expected</b>	5 mins

#2.2	Definition
<b>Task definition</b>	Search for new IT solutions to include inside your company. You want to understand how Augmented reality might be applied to your business. Find out how an immersive experience can add value to your business.
<b>Expected correct path</b>	Homepage → topic → Augmented & Virtual Reality → scroll down till you reach “How an immersive experience can add value to your business” → click on the “+” icon next to the text that represent your business → find out more → read something
<b>Possible errors</b>	<ol style="list-style-type: none"> <li>1. Choosing a different tab other than Augmented &amp; Virtual Reality</li> <li>2. Ignoring the section with title “How an immersive experience can add value to your business”</li> <li>3. Opening an article in the section to find something</li> <li>4. Exploring directly the section “Industries” other than searching by topic (Augmented reality)</li> <li>5. Sending a direct email instead of exploring the website</li> </ol>
<b>Time expected</b>	10 mins

#2.3	Definition
<b>Task definition</b>	You want to hire Reply for your company as an IT consultant firm. Find out how to contact Reply via email and the telephone number of the closest office.
<b>Expected correct path</b>	Homepage → click on the “+” icon at the bottom of the page → About Reply → Info & Contacts → About → See all reply offices → read the info since you find a location that is next to your position (email is info@reply.com, the telephone depends on the position of the user)
<b>Possible errors</b>	<ol style="list-style-type: none"> <li>1. Does not click on the “+” icon in the bottom of the page or clicks in another link from the navigation bar which is not “About” (that in bold inside the “About” tab or “Office Locations &amp; Contacts”)</li> <li>2. Once clicked on the “+” icon, clicks another link other than “About reply”</li> </ol>

	<p>3. Once opened the “About” page does not click on “Office Locations &amp; Contacts” (to see the telephone number)</p> <p>4. Provides an email which is not info@reply</p> <p>5. Provides a telephone number which is not referencing to a Reply office</p> <p>6. Provides a telephone number which is not referencing to the nearest Reply office</p>
<b>Time expected</b>	6 mins

<b>#2.4</b>		<b>Definition</b>
<b>Task definition</b>		You are a direct competitor of Reply and you are analysing your market. Find the 2019 net profit of the company.
<b>Expected correct path</b>		Homepage → About → Financial highlights → read the requested data
<b>Possible errors</b>		<p>1. Choosing a tab different than About</p> <p>2. Inside the Tab “About”, choosing a sub-section not listed in the “Investors” column</p> <p>3. Providing a wrong data</p> <p>4. Selecting a sub-topic related to news, meetings, news or more totally unrelated with profit data</p> <p>5. Searching the date through the search function</p>
<b>Time expected</b>		5 mins

<b>#2.5</b>		<b>Definition</b>
<b>Task definition</b>		Your company wants to implement a mobile payment system. Find the Reply website dedicated to Mobile Payments
<b>Expected correct path</b>		Homepage → About → All Reply websites → find the site for mobile payments
<b>Possible errors</b>		<p>1. Chooses a different tab which is not about: clicks on it or opens a sub-tab of it</p> <p>2. Once clicked or hovered above the “About” tab, opens another tab which is not “All Reply Websites” or “About” in bold</p> <p>3. Once opened the “About” page, does not click on “All Reply websites”</p>
<b>Time expected</b>		5 mins

## 2.2 Execution of the Study

During the execution of the test the screen has been recorded as well as the user that was actually performing the test. These two recording sets are available on a [Google Drive folder](#) and have been very useful for all of us in order to collect all the quantitative indicators in the correct way. In fact, watching all the recordings of the screens we have precisely counted all the errors committed by each user as well as the time on task.

Moreover, the recording of the face of the user while performing the task has been fundamental to understand the emotional responses of the user during each task. So, we could analyze and fill in the best possible way all the qualitative indicators. Our work was also facilitated by the fact that most of the users used the "*thinking aloud*" behavior making explicit what type of emotions they were feeling in every moment of the test.

We have to mention also the fact that, in order to design a good user testing, we have performed a pre-test on one user on both the student and the worker tasks. After this pre-test we have collected a good amount of data that we have used to change some little things in our test so that it could be more balanced.

## 2.3 Results

In this section we present and analyze the aggregated results of the execution of the User Testing. We have divided the results among Student and Worker, taking into consideration each of the quantitative indicator separately for visualization reasons, instead we visualized all the qualitative indicators inside the same histogram because these data are more homogeneous.

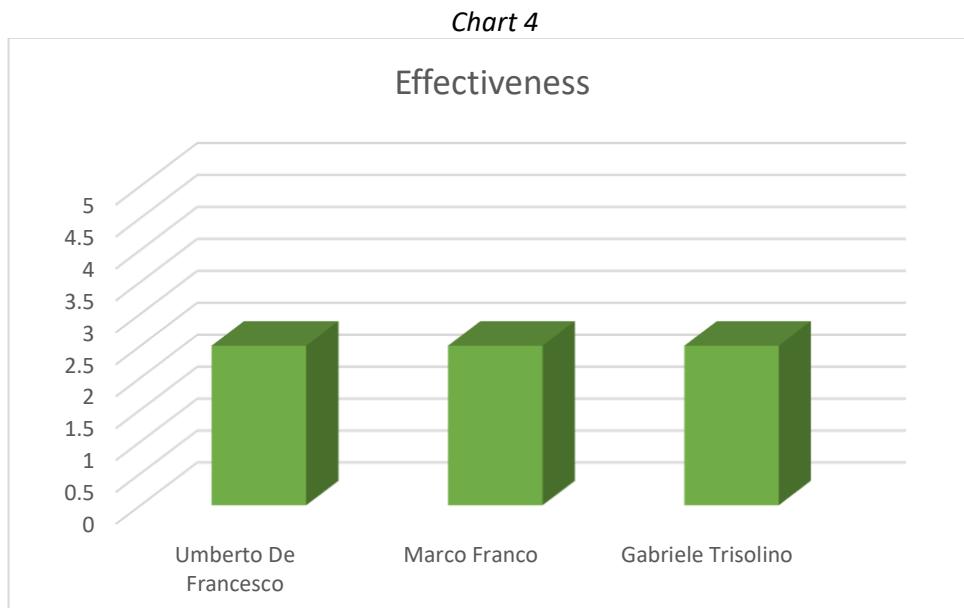
In the calculation of the effectiveness, we have used the following conventions:

- Completed task = 1
- Partially Completed task = 0.5
- Incomplete task = 0

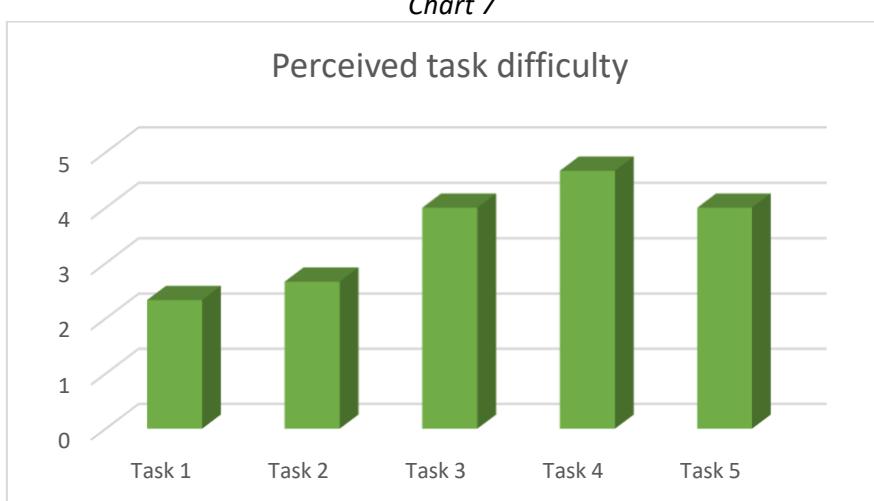
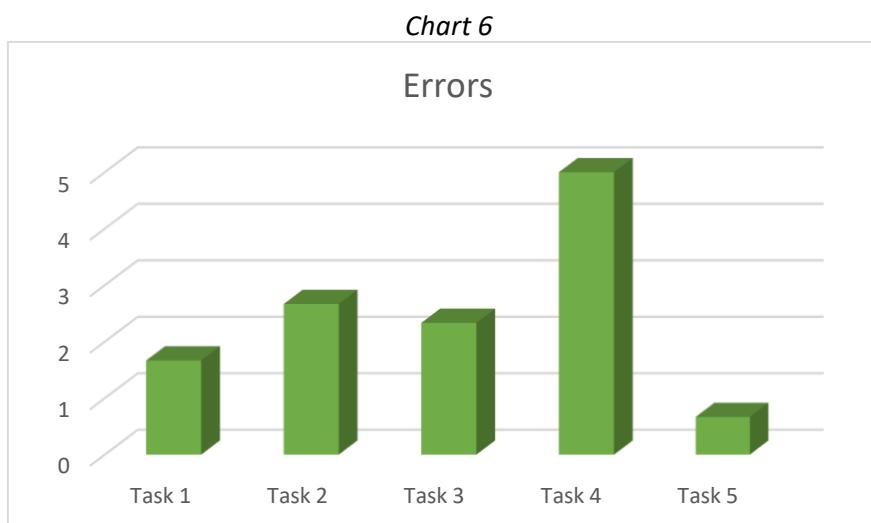
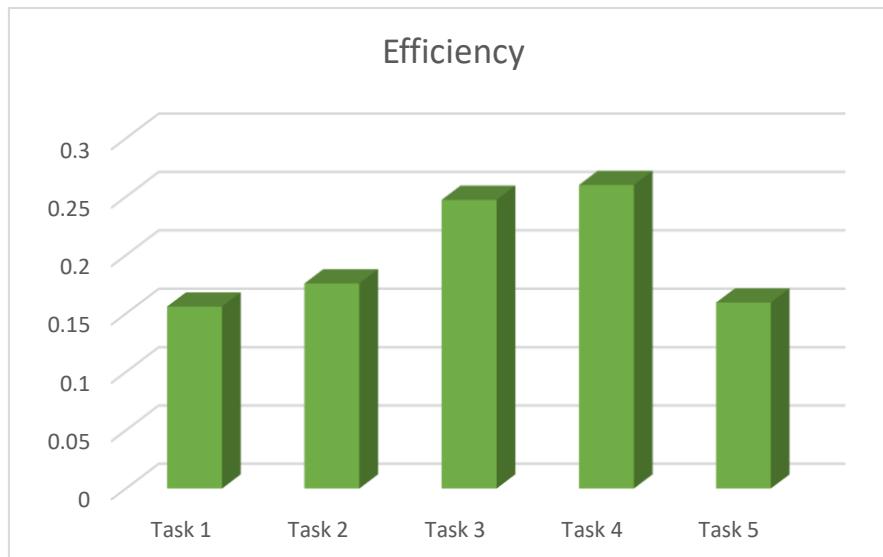
### 2.3.1 Student

In this section we will show the results obtained for the users tested as part of the first user profile.

- Quantitative indicators



*Chart 5*



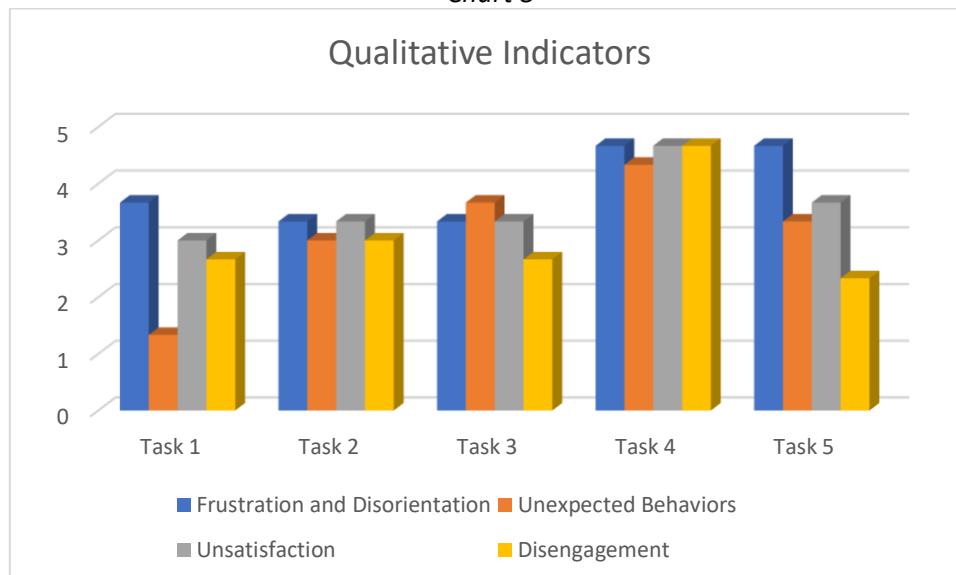
Looking at this data we can see that the general effectiveness calculated as the average of the effectiveness of the three users is 2,5 which is exactly the 50% of the total number of tasks that are 5. It means that in average when generic users are searching for some info inside the website, in the 50% of the case they wouldn't find what they are looking for.

Considering the errors, we can see that the users cannot reach the information that they are looking for without committing any errors. Especially the task 4 has an average of errors equal to 5 which means that in order to accomplish that specific task the user is “forced” to commit a lot of errors which is a waste of time and a cause of frustration.

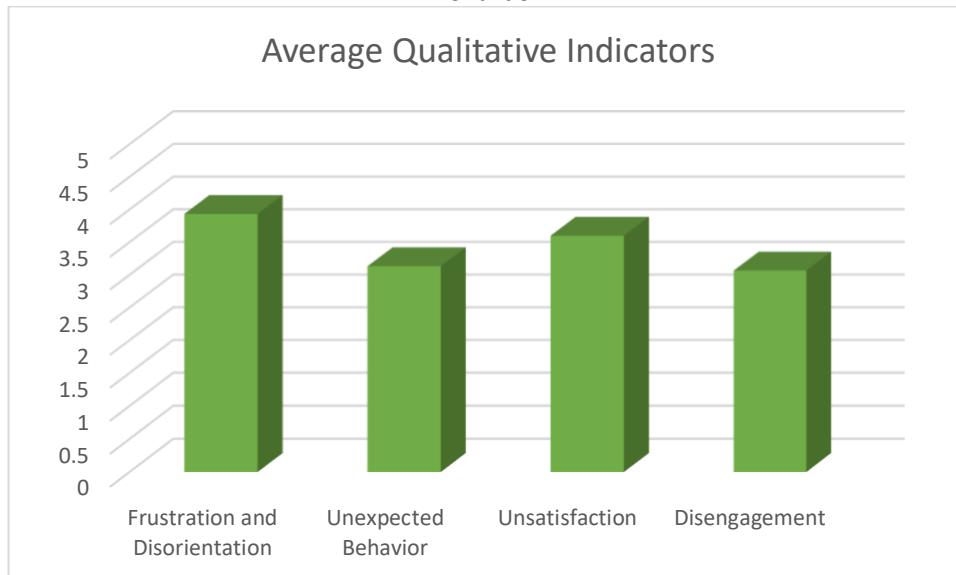
The last interesting thing to say is that the perceived difficulty of the tasks is almost always above the average.

- Qualitative indicators

*Chart 8*



*Chart 9*



### 2.3.2 Worker

In this section we will present the results in an aggregated way, obtained for the users tested as workers.

- **Quantitative Indicators**

*Chart 10*

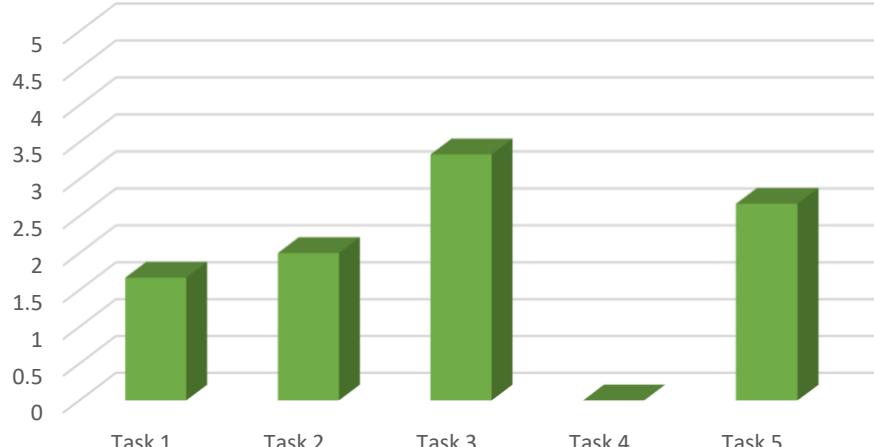


*Chart 11*

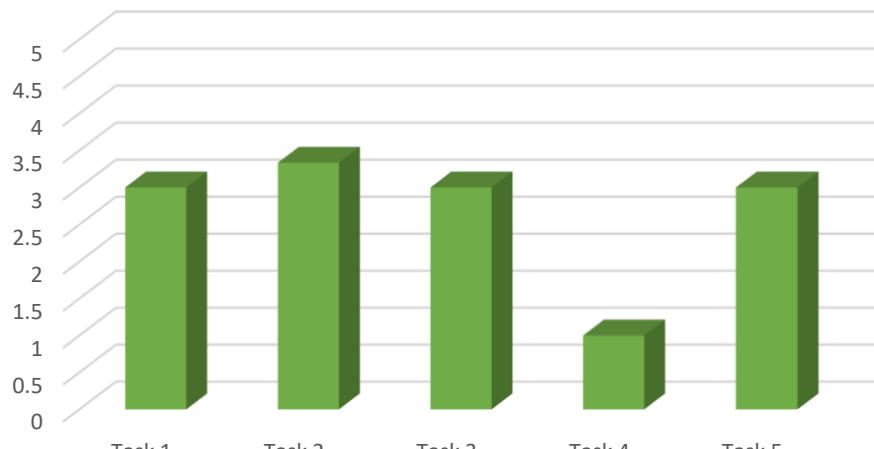


*Chart 12*

## Errors

*Chart 13*

## Perceived task difficulty

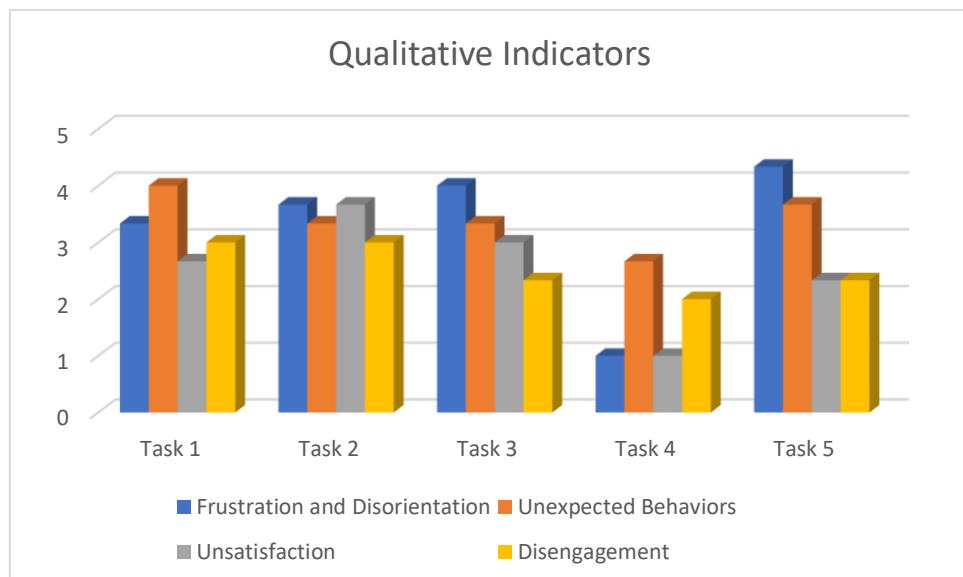
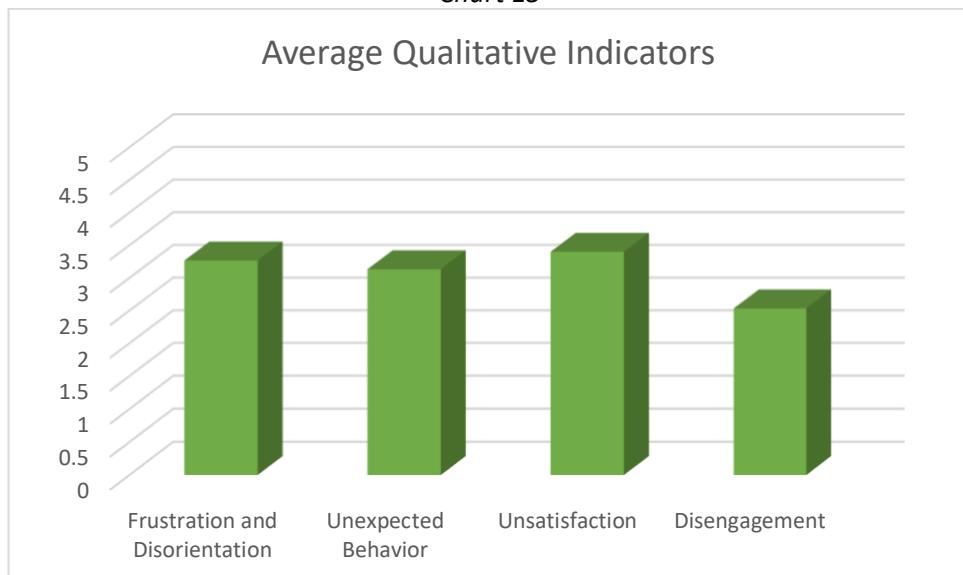


Looking at this data we can see that the general effectiveness calculated as the average of the effectiveness of the three users is 2,8 which is the 57% of the total number of tasks that are 5. It means that in average when generic users are searching for some info inside the website, in the 43% of the case they would not find what they are looking for that is a bit under the average.

Considering the errors, we can see that the users cannot reach the information that they are looking for without committing any errors with the only exception of task 4 in which no one of the users committed a single error. Especially the task 3 has an average of errors equal to 3,33 which means that to accomplish that specific task the user is “forced” to commit a lot of errors which is a waste of time and a cause of frustration. The last interesting thing to say is that the perceived difficulty of the tasks is almost always above the average with the only exception of task 4.

- Qualitative Indicators

*Chart 14*

*Chart 15*

### 2.3.3 Post-Questionnaire results

In this section, result emerged from the Post-questionnaire answers of the user tested are presented. Also in this case, our analysis is divided according to the different user profiles. Generally speaking, it has to be said that, from this Post-Questionnaire, emerged that users are strongly biased by the sense of frustration and the engagement perceived during the user testing. It is extremely clear in some cases (ex. User 1 of [A5.1]) that the user perceived the website in a different way than the others.

We decided in this case to report aggregated results computing a mathematical average of the scores proposed by the user to the questions available in section [A3.3]. All the raw data are instead available in section [A5].

**NOTE:** *questions in this case have been proposed and here reported in Italian. Due to the user understanding of English – that was relay poor in some cases – we decided to proceed using only Italian. In any case you can find the translation around brackets near to the questions.*

- **User profile 1: Student**

Questions	Average result
1. Il linguaggio in cui sono state fornite le task era comprensibile? ( <i>Was the language of the provided tasks comprehensible?</i> )	<b>4</b>
2. L'ammontare di informazioni nella Home Page era adeguato? ( <i>Was the amount of information contained into the homepage adequate?</i> )	<b>2</b>
3. L'uso del colore era appropriato? ( <i>Was the use of the colour appropriate?</i> )	<b>3.333</b>
4. Le informazioni erano raggruppate in maniera consistente rispetto alla loro categoria di appartenenza? ( <i>Were the information grouped in a consistent way with reference to their belonged category?</i> )	<b>2</b>
5. La navigazione attraverso le diverse pagine del sito seguiva una giusta gerarchia? ( <i>Was the navigation through the different pages following a right hierarchy?</i> )	<b>1.667</b>
6. La navigazione e i colori erano consistenti tra le diverse pagine del sito? ( <i>Were navigation and colour consistent among the different pages of the site?</i> )	<b>2</b>
7. L'ammontare d'informazioni nelle singole pagine era adeguato? ( <i>Were the amount of the information in the single pages adequate?</i> )	<b>2</b>
8. I titoli delle pagine e degli argomenti erano auto esplicativi? ( <i>Were the titles of the pages and of the topics auto explicative?</i> )	<b>1.333</b>
9. Lo scroll delle pagine richiesto per raggiungere le informazioni richieste era adeguato? ( <i>Was the needed scrolling into the pages adequate to reach the desired information?</i> )	<b>2.667</b>
10. La funzione di Ricerca è stata d'aiuto e affidabile? ( <i>Was the Research function being helpful and reliable?</i> )	<b>3</b>
11. La terminologia utilizzata è stata facilmente comprensibile? ( <i>Was the used terminology easily comprehensible?</i> )	<b>3</b>
12. Le grafiche erano chiare e precise? ( <i>Were the graphics clear and precise?</i> )	<b>3</b>
13. Il testo e le grafiche presentate erano esteticamente piacevoli? ( <i>Were the presented texts and graphics aesthetically pleasant?</i> )	<b>3.333</b>

14. In generale, la velocità di caricamento delle pagine era soddisfacente? ( <i>In general, were the loading speed of the pages acceptable?</i> )	<b>1.333</b>
<b>OVERALL AVERAGE SCORE</b>	<b>2.548</b>

What emerges from this table is that, in general, the task proposed were accessible and easy to understand but terminology both in the task and on the website can be improved. For what concern Navigation, from question 5 and 8 it is visible that the user perception of the design of this category is not very high. Users perceived navigation, page organization and the amount of information provided in each page below the average. Another factor below the average is the loading time that received an average grade of 1,333. What instead is quite in the average is related more to aesthetic design: texts and graphics are scored with a 3,333 as well as the use of the color on the website. Instead, terminology and search function, are perceived as neutral.

Furthermore, looking at the open comments of the users [A5.2], the testing reveals a general unsatisfaction of the users. The website appears difficult and not well structured. Also, one of the main difficulties faced was the language gap: Italian is not 100% supported by the website that in our opinion is one of the main weaknesses of *Reply.com/it*.

- **User profile 2: Worker**

Questions	Average result
1. Il linguaggio in cui sono state fornite le task era comprensibile? ( <i>Was the language of the provided tasks comprehensible?</i> )	<b>3.333</b>
2. L'ammontare di informazioni nella Home Page era adeguato? ( <i>Was the amount of information contained into the homepage adequate?</i> )	<b>2.333</b>
3. L'uso del colore era appropriato? ( <i>Was the use of the colour appropriate?</i> )	<b>3.333</b>
4. Le informazioni erano raggruppate in maniera consistente rispetto alla loro categoria di appartenenza? ( <i>Were the information grouped in a consistent way with reference to their belonged category?</i> )	<b>3</b>
5. La navigazione attraverso le diverse pagine del sito seguiva una giusta gerarchia? ( <i>Was the navigation through the different pages following a right hierarchy?</i> )	<b>3.667</b>
6. La navigazione e i colori erano consistenti tra le diverse pagine del sito? ( <i>Were navigation and colour consistent among the different pages of the site?</i> )	<b>2.667</b>
7. L'ammontare d'informazioni nelle singole pagine era adeguato? ( <i>Were the amount of the information in the single pages adequate?</i> )	<b>3</b>
8. I titoli delle pagine e degli argomenti erano auto esplicativi? ( <i>Were the titles of the pages and of the topics auto explicative?</i> )	<b>4</b>
9. Lo scroll delle pagine richiesto per raggiungere le informazioni richieste era adeguato? ( <i>Was the needed scrolling into the pages adequate to reach the desired information?</i> )	<b>3</b>
10. La funzione di Ricerca è stata d'aiuto e affidabile? ( <i>Was the Research function being helpful and reliable?</i> )	<b>2</b>
11. La terminologia utilizzata è stata facilmente comprensibile? ( <i>Was the used terminology easily comprehensible?</i> )	<b>2.667</b>

12. Le grafiche erano chiare e precise? ( <i>Were the graphics clear and precise?</i> )	<b>3</b>
13. Il testo e le grafiche presentate erano esteticamente piacevoli? ( <i>Were the presented texts and graphics aesthetically pleasant?</i> )	<b>3.667</b>
14. In generale, la velocità di caricamento delle pagine era soddisfacente? ( <i>In general, were the loading speed of the pages acceptable?</i> )	<b>2.667</b>
<b>OVERALL AVERAGE SCORE</b>	<b>3.095</b>

Firstly, comparing this user profile's result with the previous one, the average results are higher. This is a clear evidence of the user bias intrinsically present in a user testing. But let us analyze those results too.

Secondly, the tasks were not very clear and this – as observed during the data gathering – it is also connected to the terminology used (that in fact, scored 2.667 also in the post-questionnaire). The selected workers were not familiar with terms like "Augmented Reality" or what was exactly the "IT world". Those difficulties did not instead, emerge in the pre-test.

Workers are more satisfied about the loading time, the navigation patterns, and the pages presentation, looking also at the page's titles, information amount and so on. On the contrary, the Home page was criticized (score of 2.333). Regarding aesthetic design, this user profile evaluated graphics neutrally or just above average as for question 13.

To conclude, the lowest score is reported in the search function that in this case was perceived as poor and not helpful.

Pointing out the open comments [A5.4], also in this case the language gap is mentioned. Another critic was moved against easiness of use for new users: the website resulted difficult to understand during the first and the second tasks. Moreover, contact and emails were difficult to be found, something that instead, it is always supposed to be one of the main information to be easy to find.

## 2.4 Conclusions

From the results of the user testing, it seems clear that a user who is not proficient in English, or who does not know yet the topics of the site, finds difficult to orient himself into it.

Many relevant issues pointed out throughout this section such as the difficulty to find a certain webinar (task 4 for a Student) or find how to contact Reply to hire the company (task 3 for a Worker), were raised while accomplishing tasks which seem to be “daily” tasks for both frequent and non-frequent customers.

The language of the tasks seemed to be clear for the users, who gave a medium score of 4 for the Students and 3.33 for the workers. Relying on these results, someone could conclude that Reply is not a site for everyone, but just for users which are able to understand immediately digital topics. But the reader can note from the personal data of the tested users that actually the people commonly clustered into the “native digital generation” were the ruder in the post-questionnaire scores. This, in our opinion, is a huge weakness. The tested users profiled as workers, which are experienced people and have decisional powers on their companies, had generally a bad experience: resulting with a high level of frustration, disorientation, and anything that the reader can find in *Chart9*. At the same moment, they were even not able to accomplish the tasks generally, and this is visible in *Chart10*. The other user profile, the student, seemed to reach the goal of their tasks (*Chart4*), but were more conscious that the site had a bad usability, giving lower scores on the post-questionnaire form reaching an average score of 2.548 compared to the 3.095 given by the workers. Finally, one curious fact is that most of the users found inappropriate the time of the page loading, they gave an average score of 2.7/5. This can even raise the need to scale-up the server capabilities. All in all, this phase gave a strong bad impression on the usability of the site. Every user was not satisfied of the experience and the overall evaluation of the site will have to be affected by this. The students seemed to find hard to spot a hierarchy while navigating with an average score of 1.67/4 and they seemed to spot an inconsistency between the titles of the articles and the content with an average score of 1.33/4. The workers, from their point of view, seemed to use more and at the same time being not satisfied from the results given by the search function, with an average score of 2/4.

# Final Conclusions

The final conclusions of the evaluation of the usability of the site “*reply.com*” are described in this section. The inspection made by the evaluators pinpointed some technical aspects related to the content of the experience, with some strong weaknesses such as the error preventing and handling. Many weaknesses with a functionality nature, such as the webinar section which disappears on the Italian version of the site, or the search bar which does not give appropriate or expected responses, have been discovered only with the help of the user testing. This underlines the importance to do both the usability evaluation methods.

The inspection resulted to have a more technical point of view, while the user testing was more aimed at understanding if real-world users would use the application in an easy and engaging way.

The inspection and user testing, anyhow, gave even similar results about some aspects. Indeed, one of the strong weaknesses spotted by the inspection was the one related to the heuristics aimed at evaluating the content of the page, or with a “content” nature. Indeed, the users gave low scores on the post-questionnaire form in the related questions, such as the students’ inconsistency between titles and content, or the workers’ hardness to find information in their native language.

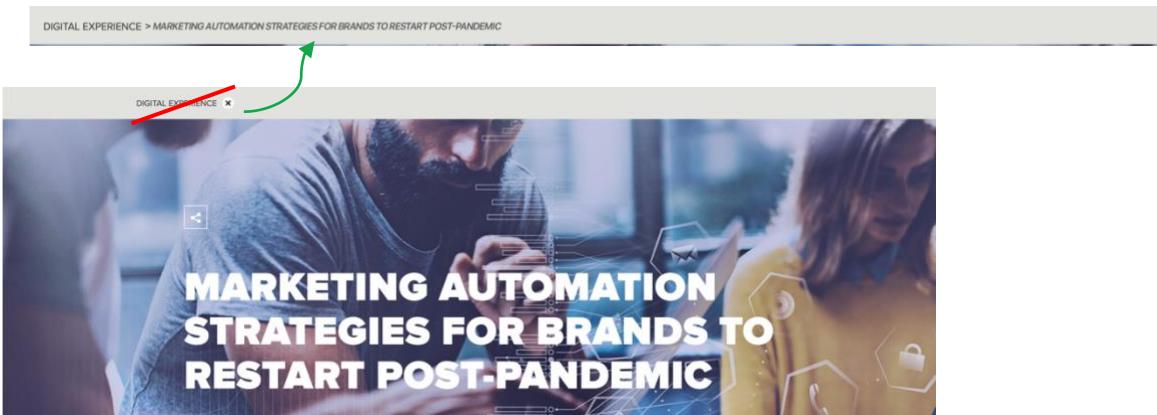
One thing to improve, is for sure the user experience. Both the evaluators while inspecting and the users, seemed hard to accomplish precise task. At the same time, the site seemed to provide good visual design elements to support the content shown, supporting more the zapping between a section and another, without any precise task. Regarding the general features of the site, it is visible that many strong weaknesses have been spotted. The students and the workers seemed to not be interested on Reply after the testing phase, and in a real-world scenario that means that through the site Reply lost respectively potential new visitors and customers. Our overall evaluation of the usability of the site is not sufficient. Reply should work more on this aspect in the future.

# Redesign Suggestions

Here we present some extra suggestions about how to redesign the website to improve its Usability, basing our suggestions on the conclusion of the Usability evaluation performed.

## Navigation Bar

Improve the use of Bread Crumbs, including the article title or the event title of the member of each subgroup explored. Also, remove the blank space on the left and making this bar always visible during navigation.

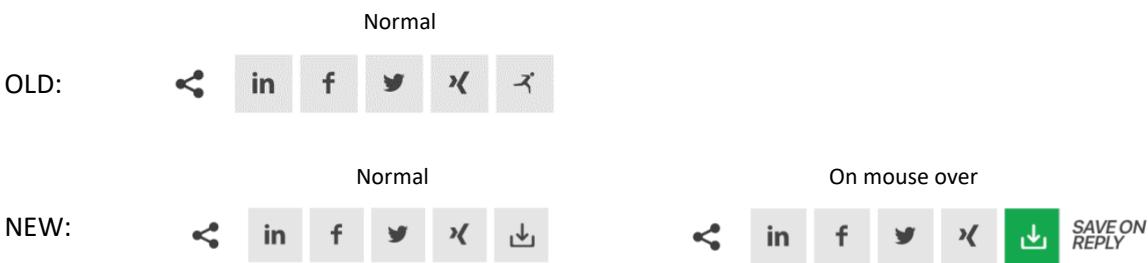


## Reducing Information Overload

Reducing the number of articles provided for each page and so reducing the length of the pages. A good practise can be reporting only the title and the summary of the article without inserting a dedicated image and space in the page. Particular attention can be made to the homepage. This space can be used as spotlight just for the fresh news such as the latest, or to give information about the structure of the website. In [this example](#), you can find a minimalistic and well-designed homepage from a famous company. The homepage is the first touchpoint, making it chaotic can make a bad first impression of the site, disturbing the perceived image that the customers can have related to company, making them run away rather than use Reply for counselling.

## Save Button

Changing the icon of the save button to associate better the semantic meaning with the action carried out. If the connection with the Reply website is strictly required, a label can be added to the button.



## Improving Error Handling

Correcting the error Handling adding clear information about why the error is created and how to resolve it. Clear reference could be login errors.

## Fixing bugs

Correcting the errors mainly raised by the search function page, the webinar page and some articles features. All the errors are fully explained and mentioned in the Annexes section A1.

## Improving Translation

As highlighted for the Italian language, the translation of the terminology of the website, especially for the menu, is very poor.

English version:

Italian version:

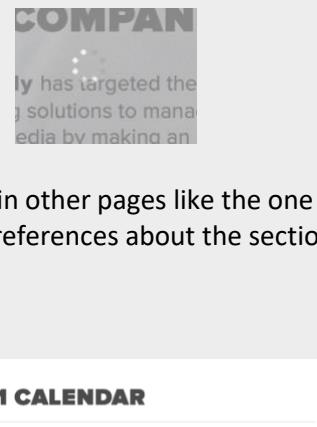
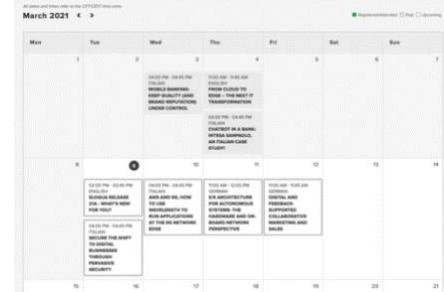
The two versions are more or less the same.

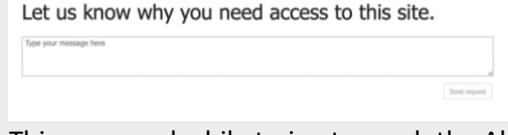
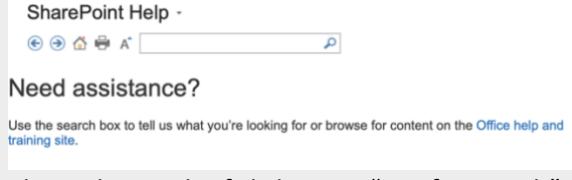
More importantly, the functions provided by the site seem to be different. The webinar section is only present in the English version and the job offerings depend on the language in which the site is set.

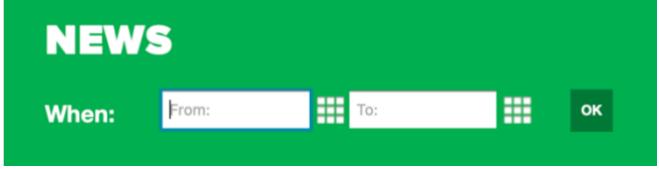
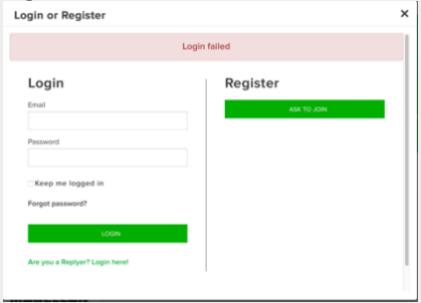
# Annexes – Inspection

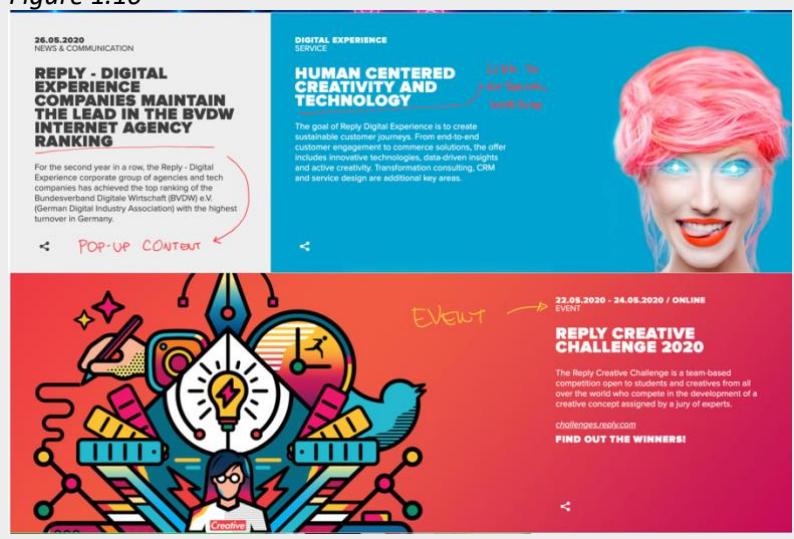
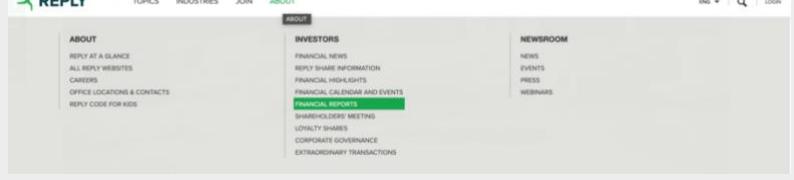
## A1 - Individual Evaluator's Inspection sheets

[A1.1] Evaluator Name: Federica Buccieri

Page URL	Heuristic category	Heuristic	Score	Comment
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	HN1	2	<p>Scrolling down the Home page there is no orientation info to recall that we are in the Home page. The same happens for other pages where the information is displayed as shown but scrolling down this bar disappears, so the user lost the contact with this information.</p> <p><i>Figure 1.1</i> Also, the space in the left suggests the presence of a possible</p>  <p>functionality that is not available instead. Moreover, when navigating inside an article, no information is added to underline that we are in a sub-object of the highlighted topic. Loading is instead well supported by a loading circle animation.</p> <p><i>Figure 1.2</i> </p> <p>It is also to be said that in other pages like the one showed before, there are good references about the sections and subsection explored.</p> <p><i>Figure 1.3</i> </p>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	HN2	4	No errors. The calendar proposed in this format is also an example of good design that can be mentioned here.
<a href="https://webinars.reply.com/home.action">https://webinars.reply.com/home.action</a>				

<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	HN3	1	<p>1 - Once clicking on one of the tabs, the menu doesn't disappear in any way. This leads to the fixed presence of the menu while continuing to have a look at the page. This also doesn't allow the user to use the search bar.</p> <p><i>Figure 1.5</i></p> 
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	HN4	3	<p>Most of the symbols used are standard. The Reply symbol instead was not clear to me.</p> <p><i>Figure 1.6</i></p>  <p>This symbol mean “save in the Reply website as favourite content” and the successive green one means “Saved”. That was totally unclear.</p>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a> <a href="https://webinars.reply.com/home.action">https://webinars.reply.com/home.action</a>  <a href="https://www.reply.com/en/search?">https://www.reply.com/en/search?</a>  <a href="https://www.reply.com/en/_layouts/15/help.aspx?Lcid=1033&amp;Key_=WSSEndUser_SearchTips&amp;ShowNav=true">https://www.reply.com/en/_layouts/15/help.aspx?Lcid=1033&amp;Key_=WSSEndUser_SearchTips&amp;ShowNav=true</a>  <a href="https://www.reply.com/en/userprofile">https://www.reply.com/en/userprofile</a>	Content	HN5	1	<p>A lot of strange things happened without my control. Reporting some examples:</p> <p><i>Figure 1.7</i></p>  <p>This appeared while trying to reach the About &gt; Webinar page.</p> <p><i>Figure 1.8</i></p>  <p>Need assistance?</p> <p>Use the search box to tell us what you're looking for or browse for content on the <a href="#">Office help and training site</a>.</p> <p>This is the result of clicking on “tips for search” in the search page. This appears when no matches are produced by the search engine inside the web site. <b>There is no message that asks if the user wants to be redirected to another page or not.</b></p> <p>Also, the saving procedure of contents is done without any confirmation required by the user.</p> <p>Another example is the update of user profile information. The button Save directly changes the user profile that could lead to an unintentional password change that can compromise the usability of the web site.</p> <p><i>Figure 1.9</i></p> 

<p><a href="https://www.reply.com/en/">https://www.reply.com/en/</a></p> <p><a href="https://webinars.reply.com/home.action">https://webinars.reply.com/home.action</a></p> <p><a href="https://www.reply.com/en/newsroom/news/">https://www.reply.com/en/newsroom/news/</a></p>	Content	<b>HN6</b>	<b>2</b> <p>Since the beginning is not clear if you are in the Home Page or not, or which article in particular you are looking at when scrolling down the page a little bit.</p> <p>The only way to retrieve this information is opening the Highlighted tab menu (the fact that is highlighted is actually good).</p> <p><i>Figure 1.10</i></p>  <p>The pages are so long that the user can forget which page he is looking at.</p> <p><i>Figure 1.11</i></p>  <p>An other example of bad design can be this input where even after inserting some combination, no one of the previous is shown.</p> <p><i>Figure 1.12</i></p>  <p>This functionality instead, applied to the calendar is an example of good design that improve user's recall.</p>
<p><a href="https://www.reply.com/en/">https://www.reply.com/en/</a></p>	Navigation	<b>HN7</b>	<b>4</b> <p>The landmark to the Homepage is always present in the Reply logo. Other Landmarks (Topic, Industries, Join an About) are present too. No advanced features are present.</p>
<p><a href="https://www.reply.com/en/">https://www.reply.com/en/</a></p>	Presentation	<b>HN8</b>	<b>2</b> <p>The page offers really a lot of stimulus but looking at them singularly, no element seems superfluous. There are just info about the articles linked. But on the other hand, a lot of articles are displayed. Too much.</p>
<p><a href="https://www.reply.com/en/">https://www.reply.com/en/</a></p>	Content	<b>HN9</b>	<b>1</b> <p><i>Figure 1.13</i></p>  <p><b>SORRY, SOMETHING WENT WRONG.</b></p> <p>HIDE DETAILS</p> <p>Correlation ID: c303b29-035c-0056-e249-a3cc01454ff8</p> <p>Definitely a bad error handling. What that ID means?</p> <p><i>Figure 1.14</i></p>  <p>"login Failed" is not enough to describe the error. Is not clear why the login failed and what to do to fix the error.</p>

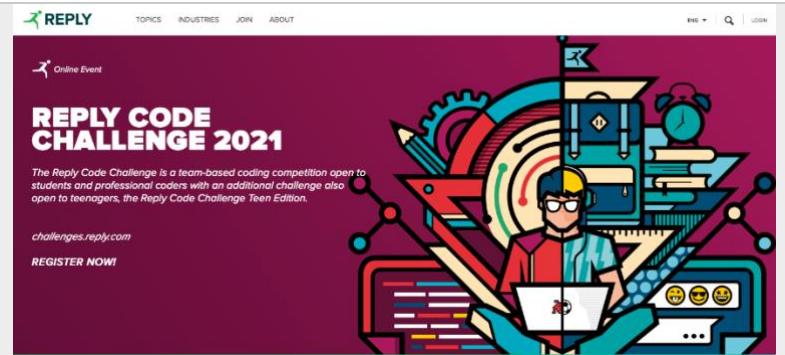
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Content	HN10	4	A search button is available but search results are not very intuitive and display a lot of information. No user guide is provided but in my opinion is not necessary.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	HM1	4	General interaction paradigm are standardized among different pages and sections of the web site. Each difference is contextualized (see Join or Career searching for example). A cons about the general orientation of the user is created by the multiple redirections to other websites but I will not count it as a sever error.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	HM2	4	<p><b>Figure 1.15</b></p>  <p>This menu offers a clear distinction about different group contents, sub-groups and related. For this reason my score is sufficient.</p>
<a href="https://www.reply.com/intl/">https://www.reply.com/intl/</a> <a href="https://www.reply.com/en/topics/digital-branding/">https://www.reply.com/en/topics/digital-branding/</a>	Navigation	HM3	3	Inside each category, the navigation among different articles is confusing. Exploring Topics sub-group, for example, you can find articles, video, link to other platforms and they are all mixed up. <p><b>Figure 1.16</b></p>  <p>Navigation is easy but not structured in the proper way. Event instead are properly structured and ordered by date for example.</p>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	HM4	4	Semantic navigation is guaranteed by the differentiation in Topics and by Industry like the main menu underline. Each content is semantically related to similar ones.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	HM5	4	<p><b>Figure 1.17</b></p>  <p>All the relevant Landmarks are always present and visible.</p>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Content	HM6	1	The amount of information the user is provided with is really too much and generates confusion. The overload of information is the

				main problem of this website. Too much content, organized but not with a clear distinction about what is relevant and what is not.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a> <a href="https://www.reply.com/en/topics/cloud-computing/">https://www.reply.com/en/topics/cloud-computing/</a>	Presentation	HM7	4	<p>Text is always readable even if it varies in colour. The font used is standard and so are the different types of font, dimensions and colours used between titles and contents.</p> <p>There are really minor mistakes about colour readability.</p> <p><i>Figure 1.18</i></p>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a> <a href="https://www.reply.com/en/topics/cloud-computing/">https://www.reply.com/en/topics/cloud-computing/</a>	Presentation	HM8	2	<p><i>Figure 1.19</i></p> <p><b>EDGE COMPUTING</b> CASE STUDY</p> <p><b>OPEN SOURCE AND EDGE COMPUTING ARE THE BASIS OF DEUTSCHE TELEKOM'S NEW VIRTUALISED NETWORK INFRASTRUCTURE</b></p> <p>Deutsche Telekom is working with Reply to develop the Access 4.0 programme, which takes advantage of open source to create a scalable solution making the control, management, and operation of networks more scalable, flexible and economically...</p> <p></p> <p>In the image shown above, both “Edge computing” and the title label are link to the article. I was expecting to be redirected to the Edge Computing section while clicking on that label instead that opening the article. Another non clear functionality is the saving button for logged user with the reply logo.</p> <p><i>Figure 1.20</i></p>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a> <a href="https://www.reply.com/en/topics/architecture/">https://www.reply.com/en/topics/architecture/</a>	Presentation	HM9	3	<p>Generally speaking the heuristic is respected and applied but I noticed some mistakes: clicking on “Architecture”, the user is redirected to a Search by keyword while instead I was expecting to land on the Topic “Architecture” page.</p> <p><i>Figure 1.21</i></p> <p></p>

				CASE STUDY	Architecture
					
FOCUS ON: <u>ARCHITECTURE</u> , RETAIL & CONSUMER PRODUCTS, RETAIL ARCHITECTURE					
					
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	HM10	4	Spatial allocation follows the same pattern in every page. Important Topics are presented bigger than the others and use of colours matches different arguments. There is not a clear hierarchy built upon distancing different object but the web site doesn't required this distinctions because it is strictly divided in sections about different topics.	
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	HM11	4	Each topic or industry page present the same structure that is consistent with the website layout. Also events, news and webinars follow the same structure.	

[A1.2] Evaluator Name: Alessandro Corsini

Page URL	Heuristic category	Heuristic	Score	Comment
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a> <a href="https://www.reply.com/en/topics/big-data-and-analytics/">https://www.reply.com/en/topics/big-data-and-analytics/</a> <a href="https://www.reply.com/en/topics/games-and-gamification/">https://www.reply.com/en/topics/games-and-gamification/</a>	Navigation	HN1	2	<p>A little hand appears going over the icon of the website at the left-top corner and it suggests that you can interact with the icon to go to the homepage - Must have</p> <p>Going with the cursor over the words that represent the different sections of the website, they are immediately coloured of green. The website is full of this type of visual and very effective feedbacks every time you go over something you can interact with. – Nice to have.</p> <p>Here is an example:</p> <p>1 – Before</p> <p><i>Figure 2.1</i></p>  <p><i>Figure 2.2</i></p> <p>2 - After</p>  <p>Moving from the homepage to a certain section of the website it is highlighted in green the macrosection in which you are and a text appear in the upper grey box that reports the microsection you are visiting. However there isn't a real bread crumb: If I move to another microsection the text of the old microsection is replaced by the text of the new microsection so if I click the "x" button I go back to the home page – Severe violation.</p> <p>Here is an example:</p> <p>1 - First microsection:</p> <p><i>Figure 2.3</i></p>  <p>2 - Then I move to another microsection:</p> <p><i>Figure 2.4</i></p>  <p>3 – Finally I click on the “x”: Et voila the homepage</p> <p><i>Figure 2.5</i></p>

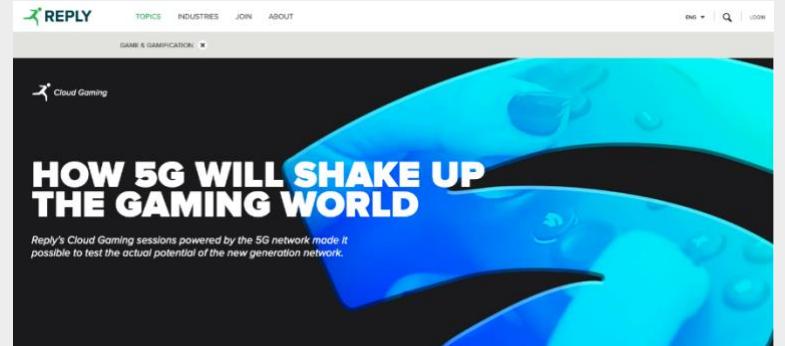


If I open a generic article, it is possible that the article is opened in another tab, but sometimes without apparently any reason the article is opened in the same tab. This inconsistency brings with it a lot of disorientation for the user. - Severe violation

These two articles have the same “graphical properties”:

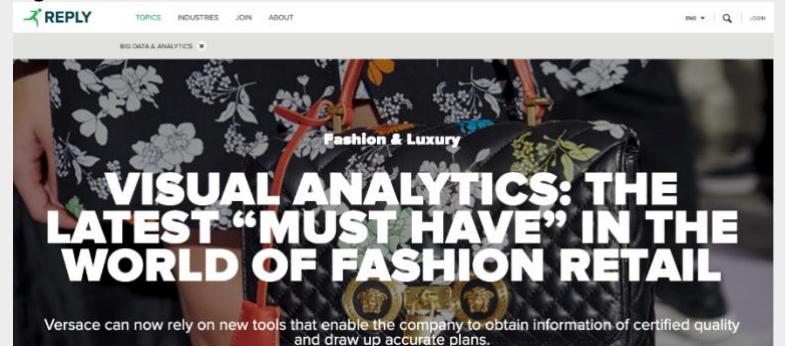
1 – Article opened in the same tab:

*Figure 2.6*



2 – Article opened in another tab:

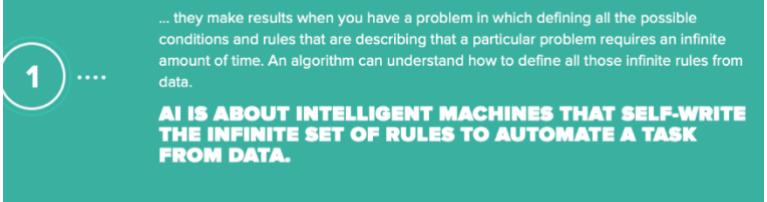
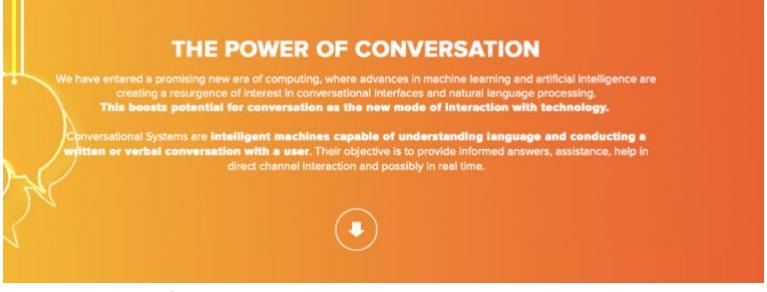
*Figure 2.7*



When an article is opened in another tab you can, as usual, press the “x” to go back to the homepage, but you will turn to have two different pages of the same site, sometimes of the same page of the site, opened inside the browser – Severe violation

I reported 3 severe violations, 1 Nice to have and 1 Must have

<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	HN2	4	<p>The language spoken by the website is quite intuitive, here there are some examples:</p> <p>1 - The calendar icon for events</p> <p><i>Figure 2.8</i></p> A screenshot of a calendar event for the 'Reply Sustainable Investment Challenge 2021 EVENT'. The event details are: '19.04.2021 - 14.05.2021' and 'Reply Sustainable Investment Challenge 2021 EVENT'. The date '19.04.2021' is highlighted with a red box.
---	--------------	-----	---	---

				2 – The note icon for the news <i>Figure 2.9</i> 
				3 – The different share icons <i>Figure 2.10</i> 
	Navigation	<b>HN3</b>	<b>N.A.</b>	
<a href="https://www.reply.com/en/topics/artificial-intelligence-and-machine-learning/">https://www.reply.com/en/topics/artificial-intelligence-and-machine-learning/</a> <a href="https://www.reply.com/en/industries/teleco-and-media/access-4-0">https://www.reply.com/en/industries/teleco-and-media/access-4-0</a>	Presentation	<b>HN4</b>	<b>2</b>	<p>One time it is used the text “Read More”, the other times it is used an arrow. Read more is used to read more but also to read less. - Severe violation</p> <p>1 – Read More – <i>before</i> <i>Figure 2.11</i> </p> <p>1 – Read More – <i>after</i> <i>Figure 2.12</i> </p> <p>AI AND ML... ... they make results when you have a problem in which defining all the possible conditions and rules that are describing that a particular problem requires an infinite amount of time. An algorithm can understand how to define all those infinite rules from data. <b>AI IS ABOUT INTELLIGENT MACHINES THAT SELF-WRITE THE INFINITE SET OF RULES TO AUTOMATE A TASK FROM DATA.</b> <i>Figure 2.13</i> </p> <p>2 – Arrow – <i>before</i> <i>Figure 2.14</i> </p>



**The adoption of Conversational Systems is aimed at improving Customer Experience by steering Human-Machine Interaction.**

#### WHAT ARE CONVERSATIONAL SYSTEMS?

Conversational systems are designed for conducting a conversation via auditory or textual methods, convincingly simulating how a human would behave and taking advantage of **sophisticated Natural Language Processing and Understanding capabilities**.

Reply framework Robotics for Customers introduced a Human centered design approach for conversational interfaces, aimed at creating "experience systems", by humanizing processes and exploiting advanced technology. Besides, the Personality by design approach is the methodology aimed at shaping Bot personality, thus enhancing design of interaction styles, by humanizing Customer touchpoints and augmenting user experience.

[Download Brochure about Conversational Systems and Reply's Solutions](#)



Also the option "contact us" is performed with very different buttons, different buttons same functionality – Severe violation

1 – First case:

*Figure 2.15*



2 – Second case:

*Figure 2.16*



I reported 2 severe violations.

<a href="https://www.reply.com/en/search?k=artificial%20intelligence">https://www.reply.com/en/search?k=artificial%20intelligence</a> <a href="https://www.reply.com/en/register?Source=https%3a%2f%2fwww.reply.com%2fen%2flayouts%2f15%2fAuthenticate.aspx%3fSource%3d%252Fen">https://www.reply.com/en/register?Source=https%3a%2f%2fwww.reply.com%2fen%2flayouts%2f15%2fAuthenticate.aspx%3fSource%3d%252Fen</a>	Content	HN5	1	<p>Using the search button, there is nothing that prevents me from searching something that doesn't exist inside the website. Moreover if you make a spelling error you will be redirected to an error page - Significative violation</p> <p>However the error page contains some comments and suggestions that could be helpful for you to find what you are searching for. Unfortunately these suggestions can cause other errors – Severe violation</p> <p>Here is an example:</p> <p>1 – Searching for something with a spelling error</p> <p><i>Figure 2.17</i></p>
--	---------	-----	---	--

**SEARCH** artificiale intenigence

Did you mean [artificiale intelligence?](#)

**Nothing here matches your search**

Suggestions

Make sure all words are spelled correctly

Try different search terms

Try more general search terms

Try fewer search terms

Try these [tips for searching](#)

2 – If I click on the link in blue “artificiale intelligence” that is the suggestion of the system itself, I expect something different from ...

*Figure 2.18*

**SEARCH** artificiale intenigence

**Nothing here matches your search**

Suggestions

Make sure all words are spelled correctly

Try different search terms

Try more general search terms

Try fewer search terms

Try these [tips for searching](#)

... another error. Without even changing the words in the search box. So maybe I think that there was a problem and for some reasons the system didn't search for “artificiale intelligence”. Therefore I type in the search box “artificiale intelligence” that was the suggestion of the system. But again I expected something different from ...

*Figure 2.19*

**SEARCH** artificiale intelligence

**Nothing here matches your search**

Suggestions

Make sure all words are spelled correctly

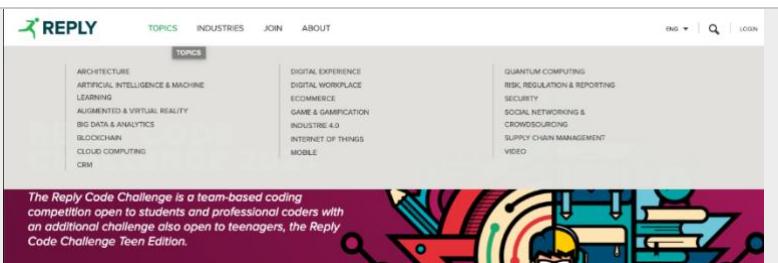
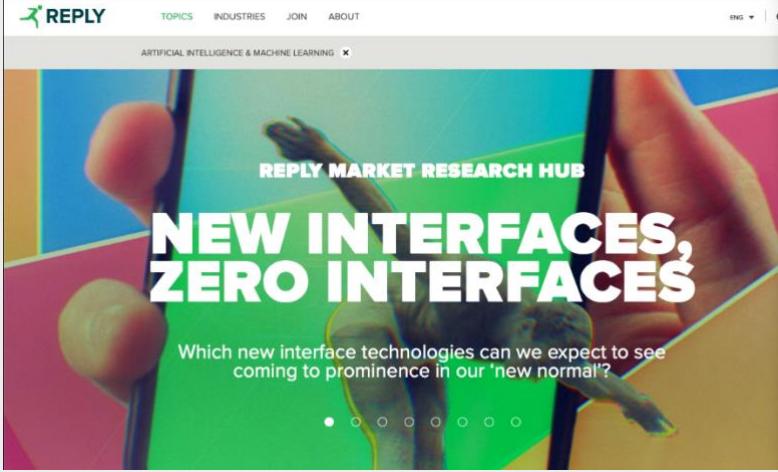
Try different search terms

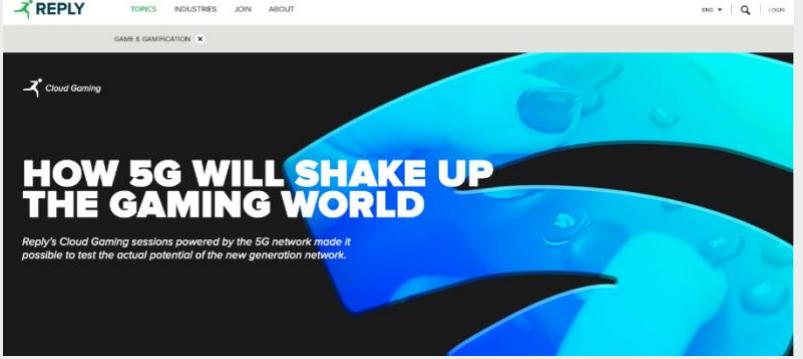
Try more general search terms

Try fewer search terms

Try these [tips for searching](#)

				<p>... the same error.</p> <p>During the registration phase I cannot find any information about the prerequisites of the password that I need to choose. However if I choose a password like “password” the system makes me aware of the fact that there are some constraints for the choice of the password – Severe violation</p> <p>Then I click on the box to change the password and again the error box in which the constraints are written disappear, so if I forgot some of the constraints I have to consciously choose a wrong password in order to read again the constraints – Severe violation</p> <p>I reported 3 severe violations and 1 significative violation</p>
<a href="https://www.reply.com/en/search?k=artificial%20intelligence">https://www.reply.com/en/search?k=artificial%20intelligence</a> <a href="https://www.reply.com/en/register?Source=https%3a%2f%2fwww.reply.com%2fen%2flayouts%2f15%2fAuthenticate.aspx%3fSource%3d%252Een">https://www.reply.com/en/register?Source=https%3a%2f%2fwww.reply.com%2fen%2flayouts%2f15%2fAuthenticate.aspx%3fSource%3d%252Een</a>	Content	<b>HN6</b>	<b>1</b>	<p>If I search something on the search box, the system doesn't suggest me anything so I can easily occur in the errors that I have shown in the example at HN5 talking of artificial intelligence. - Significative violation</p> <p>And the most important thing is that the system couldn't understand that with the suggestion “artificiale intelligence” I wouldn't have found anything, but it was enough to change it in “artificial intelligence” and...</p> <p><i>Figure 2.20</i></p> <p>...a lot of articles would have been shown.</p> <p>The example of the registration made in the HN5 is also significative for this heuristic – Severe violation</p> <p>I reported 1 significative violation and 1 severe violation</p>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HN7</b>	<b>3</b>	<p>The upper bar is really effective, the user can navigate wherever s/he wants in a very easy way. Every section of the site is accessible directly from the homepage and starting from other sections – Nice to have</p> <p><i>Figure 2.21</i></p>

				 <p>I reported 1 Nice to have</p>
<a href="https://www.reply.com/it/topics/augmented-and-virtual-reality/">https://www.reply.com/it/topics/augmented-and-virtual-reality/</a> <a href="https://www.reply.com/it/topics/game-and-gamification/">https://www.reply.com/it/topics/game-and-gamification/</a>	Presentation	<b>HN8</b>	<b>4</b>	The majority of the pages of the website are effective in the design and minimalistic. The links of the articles are very big and clear and there are clear buttons you can interact with.
<a href="https://stscorp.reply.com/adfs/ls/?wa=wsignin1.0&amp;wtrealm=urn%3areplyeu%3awww&amp;wctx=https%3a%2f%2fwww.reply.com%2fen%2fnewsroom%2flayouts%2f15%2fAuthenticate.aspx%3fSource%3d%252Fen%252Fnewsroom%252Fnews">https://stscorp.reply.com/adfs/ls/?wa=wsignin1.0&amp;wtrealm=urn%3areplyeu%3awww&amp;wctx=https%3a%2f%2fwww.reply.com%2fen%2fnewsroom%2flayouts%2f15%2fAuthenticate.aspx%3fSource%3d%252Fen%252Fnewsroom%252Fnews</a>	Content	<b>HN9</b>	<b>2</b>	<p>As I previously analysed in HN5, the suggestions given after an incorrect search are completely useless and sometimes they bring to other errors – Severe violation</p> <p>If the user writes something wrong during the login, a general message appears:</p> <p><i>Figure 2.22</i></p> <p style="background-color: #fff; padding: 5px; border: 1px solid #ccc; border-radius: 5px; display: inline-block;"><b>Invalid Username or Password</b></p> <p>So the user cannot understand if s/he wrote a wrong Username or maybe forgot the password - Severe violation</p>
<a href="https://www.reply.com/en/topics/game-and-gamification/">https://www.reply.com/en/topics/game-and-gamification/</a> <a href="https://www.reply.com/en/topics/artificial-intelligence-and-machine-learning/">https://www.reply.com/en/topics/artificial-intelligence-and-machine-learning/</a> <a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Content	<b>HN10</b>	<b>N.A.</b>	
	Navigation	<b>HM1</b>	<b>3</b>	<p>In general the pages of the same type have the same structure, for example every article of the homepage has a link to the article connected to the title and some share options at the bottom. - Must have</p> <p>However there are some exceptions, for example if I visit the section “Artificial intelligence and machine learning” I will see at the top of the page some highlighted articles that I can easily view - Significative violation</p> <p><i>Figure 2.23</i></p>  <p>Instead If I visit the section named “Game and gamification” I don't have the same useful tool, but one single article is shown at the top:</p>

				<b>Figure 2.24</b> 
<a href="https://www.reply.com/en/blockchain">https://www.reply.com/en/blockchain</a>	Navigation	<b>HM2</b>	<b>3</b>	<p>I reported 1 Must have and 1 Significative violation.</p> <p>Due to the upper bar with the 4 macrosections always visible it is very easy to navigate among different macrosections. But most importantly when you access a specific microsection like "Blockchain" inside the macrosection "Topics", the word "Topics" is highlighted in green, so it is very easy to understand where you are and so to move to another item (microsection) of the same group (macrosection). - Nice to have</p> <p>However If I visit a specific article of the topic "Blockchain" and then I want to go back to the main page of the topic I am deceived by the "x" next to the "blockchain" text that will bring me to the homepage instead of to the page of blockchain itself and it is a bit counterintuitive - Minor violation</p> <p>I reported 1 Nice to have and 1 minor violation</p>
	Navigation	<b>HM3</b>	<b>3</b>	<p>In general the single page is very long and contains a lot of articles. This huge amount of information contained in every single page can introduce some difficulties in reaching a specific article that is allocated at the bottom of the page. However some sections show at the top of the page some articles that are easily reachable with landmarks, the problem is that this tool is not present in every section – Minor violation</p> <p>The good thing is that, however the pages are in general very long, the information that are in general allocated at the end of the pages of a website are always accessible thanks to a comfortable bar with a clear icon of a "+" - Nice to have</p> <b>Figure 2.25</b>  <p>I reported 1 minor violation and 1 Nice to have</p>
<a href="https://www.reply.com/en/topics/augmented-and-virtual-reality/">https://www.reply.com/en/topics/augmented-and-virtual-reality/</a>	Navigation	<b>HM4</b>	<b>2</b>	<p>The upper bar is well organized and allows to go from one topic to a related one very easily – Must have</p> <p>However, semantically speaking I have identified some different types of pages:</p> <ul style="list-style-type: none"> <li>- News and communication</li> <li>- Case study</li> <li>- Research</li> </ul>

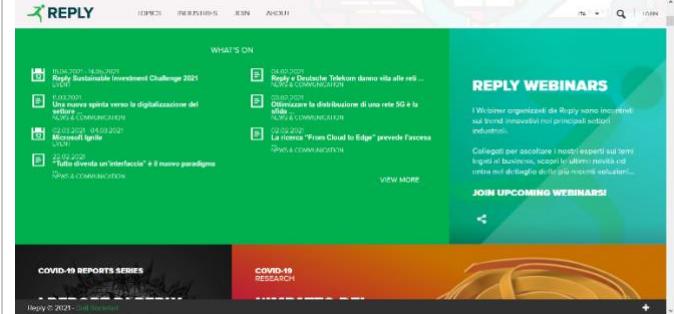
				<ul style="list-style-type: none"> <li>- Best practice</li> <li>- Product</li> <li>- Event</li> <li>- Article</li> <li>- Financial news</li> <li>- Award</li> <li>- Press article</li> </ul> <p>So, If I want to search just for case studies related to Augmented and Virtual Reality I need to scroll the bar down searching for case studies among articles of every other typology. There is not a way of searching them for category inside a specific topic. - Significative violation</p> <p>I reported 1 Must have and 1 Significative violation</p>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HM5</b>	<b>4</b>	Landmarks are very effective to reach the key parts of the website.
	Content	<b>HM6</b>	<b>4</b>	The design of the pages is very effective and the most important parts of the topic that the user can interact with are very clear and well highlighted – Nice to have
	Presentation	<b>HM7</b>	<b>4</b>	Nothing to say, everything is ok from this point of view.
<a href="https://www.reply.com/en/topics/artificial-intelligence-and-machine-learning/">https://www.reply.com/en/topics/artificial-intelligence-and-machine-learning/</a>	Presentation	<b>HM8</b>	<b>4</b>	I can mention tons of example in favour of the website, every interaction with the elements is really intuitive with some minor exceptions like the one of the “Read more” that is also used to “Read less” that I have mentioned in HN4.
	Presentation	<b>HM9</b>	<b>3</b>	In the large majority of the cases the interactions are consistent inside the whole website, however there are some exceptions that I mentioned in HN4.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	<b>HM10</b>	<b>4</b>	The upper bar is very well organized from this point of view. Everything related to the navigation is placed at the left side of the bar next to the Reply logo, instead the other interaction icons are placed at the right, very distantly. When the user enters on a section, the text with the “x” is placed on the left side of the bar next to the other texts used for the navigation.
	Presentation	<b>HM11</b>	<b>2</b>	From this point of view there are a lot of differences from pages to pages, though the pages are semantically similar. In general the pages related to a microsection of the section “Topic” for example are visually organized in very different manners. There isn't a common layout that is repeated for all those pages – Severe violation I reported 1 Severe violation

[A1.3] Evaluator Name: Lorenzo Cocchia

Page URL	Heuristic category	Heuristic	Score	Comment
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HN1</b>	2	<p>Even if the site has not big problems in this heuristic, there are some features of the websites which are not properly working but that affect the way in which the site is used and the feeling of the user. The following listed features are to be expected to be used to have a deeper knowledge of the actual state of the site but at the contrary using them can result in disorientation and unpleasant feelings.</p> <ul style="list-style-type: none"> <li>Once the user clicks in one of the website's tabs (topics, industries, or about) and then clicks in a section of them (from now on called sub-sections) it appears an apparent location-based bread crumb or at least something related to a sort of structure of the site apparently pointing to the tab with an "X" icon. If the user clicks another sub-section, it will appear a new page with a completely new bread-crumb, deleting the last opened. Just this is something disturbing, I would expect that a new bread-crumb would have appeared next to the one in the page but there are some other problems. A user would expect that clicking it he could access to a page which contains information related to the general tab-topic, but the element is not clickable. If the user clicks to read an article, the browser automatically opens a new tab in which the article will be open with the same "bread-crumb" of the departing point. Finally, clicking the "X" icon redirects the user to the homepage. I do not find this navigation interaction intuitive at all.</li> <li>Once that a user logs in to the site, it remains always logged-in except for the webinars' section. Why doing so? Why have I been ejected from the site? There is no information about it, and this provokes disorientation feelings to the user, related to the state of his log-in session.</li> </ul>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	<b>HN2</b>	3	<p>There are not particular icons around the site that could make the interaction more familiar with the user. For example, it could be easier to find the login page or the personal area by adding an icon representing a person, but this icon appears only in the webinars' page. Another example is when they write "write us" they could add a "notebook and pen" icon. In any case, the search icon is well used, and in general I did not find the need to add particular icons given the content of the site.</p>
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HN3</b>	2	<p>I feel that the user is not really free to navigate. If he finds an interesting article: say, at the middle of the homepage, and he mistakes to click there, he is not able to get back to the previous page if not with the browser support (back arrow on the top-left corner of the window). Maybe this problem is caused by the bad use of bread-crumps or by</p>

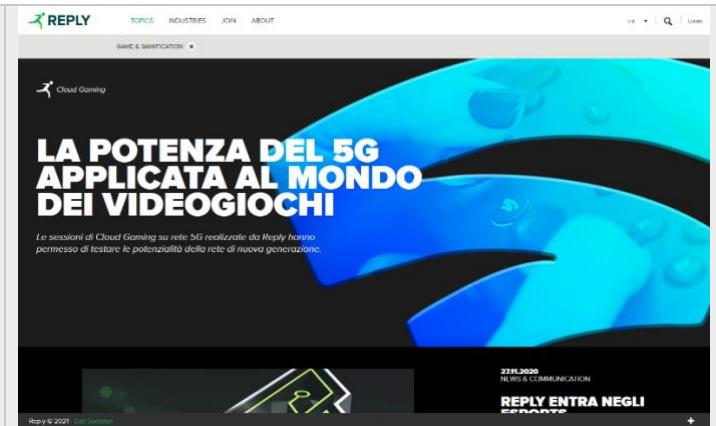
				the overloading of contents in the site. But the result is unpleasant even for this heuristic.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	<b>HN4</b>	4	There is no particular comment to expose.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>  <a href="#">Login page</a>	Content	<b>HN5</b>	2	There are few situations that I found in which the user can do actual errors. One of them is the credentials' insert in the login page. In the case in which the credentials are not correct the user is well informed. This is as good as the feedback when the user inserts wrong credentials during the registration page. Again, the labels appearing disguising as bread crumbs seem meaningless. This can cause situations in which the user clicks in the "X" to go back to the previous page but instead he is redirected to the homepage. Finally, it seems that errors with sharing articles in Social Media are not handled. In my case it does not open any popup when I click the Facebook icon, while the other icons automatically open a pop-up that redirect the user to a new homepage
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Content	<b>HN6</b>	1	As well as HN1 or HN5, the navigation is not well supported. Since the site is apparently mainly aimed at publishing articles, the user should remember every time the dialog that he had with the site. For this heuristic this is not acceptable: recall precedes recognition.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HN7</b>	1	Again, the apparent bread crumbs should accelerate the dialog jumping from one page to another. But since they do not work, this heuristic is severely violated.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	<b>HN8</b>	2	On one hand, I find the aesthetic of the site good, with a good first-look impression on every page of the site. On the other hand, especially for the homepage example, the pages are overwhelmed by information about every topic and it is difficult to assign a relevance to the elements depending on their visual design properties.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>  <a href="#">Login page</a>	Content	<b>HN9</b>	4	Since HN5 has been already scored, the errors found by the site are human-readable messages. I am referring especially to the credentials error both on the login phase and in the registration one. This makes this heuristic completely satisfied.
---	Content	<b>HN10</b>	n.a.	There is no particular need to be helped for this site.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HM1</b>	4	The website is actually consistent with the interactions. The pages under the same macro-areas have the same interactions. Topics' pages are related to the latest digital trends. Every page is a sort of folder in which there are many articles that go into the detail on something really specific. The industries' section is full of solutions for each type of industries, while the join and about sections are more related respectively to employ new people and "many other things" such as the challenges and webinars. I find everything consistent both a point of view of semantics and of interaction.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HM2</b>	3	As already exposed for the Nielsen's heuristics, the navigation between the groups is something strange and not desirable. In particular it is not clear what the label of the bread crump references. By the way, the navigation

				between elements of the same group intended as topics' pages or industry pages is always supported thanks to the navigation bar always present in every possible screen of the site.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HM3</b>	1 / n.a.	It is to be clarified if the site has a clear structure or not. If it has it, then every tab of the navigation bar is a container of sections in which you can find articles and other related contents. If today I am reading an article, I feel that in one month from now I will not be able to find the same article inside the same section, there is no clear support in it.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HM4</b>	4	Again, thanks to the navigation bar, the navigation between the same containers of contents is fully supported by the navigation bar which is always present on every screen.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Navigation	<b>HM5</b>	3	The classical logo home landmark works as expected and this is the reason or the positive score. This is not 4, because the "X" icon in the bread crump can be easily misunderstood as a section landmark and not a homepage one. For example, if I had opened an AI article, if I click the "X" on the bread crump I would expect to be redirected to a page containing all AI articles rather than the homepage.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Content	<b>HM6</b>	1	<p>This is the first thing that came to my mind during the first sight of the homepage. Indeed, the homepage is overloaded by contents and articles, without clarify what are relevant, what are non-relevant, and without even giving a suggestion on the fact that there could be this distinction. Even the other pages and articles seem overloaded, with the impression that they tried to write everything they know about topics like ML in just a web page. The problem is not the intent, but I would prefer to be guided on what are the main concepts with a minimalistic approach, and if I want to go in detail the site should support this.</p> <p><i>Figure 3.1</i></p>  <p>This is the home page, notice the scroll bar on the right. That is really tiny, and by now we have only the information about the Reply Code Challenge.</p> <p><i>Figure 3.2</i></p>



This is the screen after a second scrolling. Look at how much we moved in the homepage, almost nothing! Only watching this, we can conclude that the homepage is overloaded by contents.

<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	HM7	4	There seems to be a certain attention on the used fonts. Every title, or relevant text has a good aesthetic and seems to maintain consistency between semantics and aspect.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	HM8	1	As already explained, the placeholders seems to have an unpredictable behaviour, redirecting always to the homepage and without specifying more deeply anything about the structure of the site.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	HM9	4	Here, the placeholders are consistent. Once that I have learned that they always redirect to the homepage, they will always do that.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>	Presentation	HM10	3	The articles seem to be carefully managed in the meaning of the spatial allocation. Every article or sub-section begins with a sort if recap on what is the content of the article, than you can scroll and go on detail. Again, unfortunately the homepage is a mess even in this. The special allocation seems random, there seems to be no relevance to articles that at the contrary can be very relevant for stakeholders.
<a href="https://www.reply.com/en/">https://www.reply.com/en/</a>  <u>Artificial intelligence</u>  <u>Game &amp; Gamification</u>	Presentation	HM11	1	<p>Every page seems to have a different structure. Maybe this is a choice, but this heuristic is not satisfied at all.</p> <p><i>Figure 3.3</i></p> <p>This is a screen from <i>Topics &gt; Artificial Intelligence</i> and the first section contains 9 articles titles, navigable with the white dots, that redirect to the article. Under that, there is a button that redirects to a section in which you can contact Reply.</p> <p><i>Figure 3.4</i></p>



This is a screen from *Topics > Game & Gamification* page. It is visible that the structure is completely different. Now there is only one article on the top, and an introduction video under to it.

# Annexes – User Testing

## A2 – Evaluator Sheet for task recording

[A2.1] Evaluator Sheet example

**Participant Name:** \_\_\_\_\_ **User profile:** \_\_\_\_\_ **Evaluator Name:** \_\_\_\_\_

Task	Start Time	End time	Task Completion	Elapsed Time	Time on Task (mins)	Errors	Comments
1	10:29:06 AM	10:34:09 AM	Complete	0:05:03	5.0	4	
2							
3							
4							
5							

[A2.2] Evaluator Sheet – Qualitative observation example

**Participant Name:** \_\_\_\_\_ **User profile:** \_\_\_\_\_ **Evaluator Name:** \_\_\_\_\_

Task	Perceived difficulty	Frustration & Disorientation	Unexpected Behaviours	Satisfaction	Engagement	Comments
1						
2						
3						
4						
5						

## A3 – Task sheet for the Subject

[A3.1] Task Sheet, Google Form - User profile 1: Student

### Reply User Testing - Student

Benvienuto a questa sessione di User Testing the sito di Reply. Reply è una compagnia di consulenza informatica italiana che lavora nel mondo dell'innovazione tecnologica in diversi campi. Ti forniremo alcuni compiti da svolgere e dovrà svolgerli in autonomia. Sentiti libero di esprimere i tuoi pensieri durante l'esecuzione dei compiti. Hai la piena libertà di abbandonare la sessione di testing in qualsiasi momento, se dovessi sentirti a disagio con quanto ti viene richiesto. Non sarai soggetto ad alcuna valutazione in quanto l'unico soggetto del test è il sito. Non ci sono limiti di tempo ma purtroppo non potrai farci domande durante lo svolgimento dei compiti. Saremo noi a darti eventuali suggerimenti in caso di prolungati problemi con il completamento di un compito. Buon lavoro!

**Task 1 - Sei uno studente appassionato e vuoi trovare delle informazioni per tenerti al passo su determinati argomenti. Naviga verso un articolo generico correlato ad Mixed Reality ed uno riguardo al Cloud Gaming.**

**Task 2 - Tra due giorni avrai un esame. Sai che il tuo professore è molto interessato all'e-commerce. Trova e leggi due casi studio relativi ad esso.**

Trovi i contenuti dei casi studio facilmente accessibili e comprensibili ?

1      2      3      4      5

Per niente

Molto

**Task 3 - Stai cercando una challenge interessante a cui partecipare. Trova l'ultima challenge proposta da Reply e comunica la data, l'orario e il premio in palio.**

Inserisci la Data

GG    MM    AAAA

  /    /

Inserisci l'Orario

Ora

\_\_ : \_\_

Inserisci il premio in palio

La tua risposta

**Task 4 - Hai appena superato l'esame di IoT, trova delle informazioni riguardo ad un webinar relativo alla materia che si è svolto giorno 15/02/2021.**

A che ora è iniziato il webinar?

Ora

\_\_ : \_\_

**Task 5 - Vuoi lavorare per Reply. Trova delle informazioni riguardo alle posizioni lavorative aperte nel Regno Unito (UK). Trova un modo per applicare per una internship.**

[A3.2] Task Sheet, Google Form - User profile 2: Worker

## Reply User Testing - Worker

Benvienuto a questa sessione di User Testing the sito di Reply. Reply è una compagnia di consulenza informatica italiana che lavora nel mondo dell'innovazione tecnologica in diversi campi. Ti forniremo alcuni compiti da svolgere e dovrà svolgerli in autonomia. Sentiti libero di esprimere i tuoi pensieri durante l'esecuzione dei compiti. Hai la piena libertà di abbandonare la sessione di testing in qualsiasi momento, se dovessi sentirti a disagio con quanto ti viene richiesto. Non sarai soggetto ad alcuna valutazione in quanto l'unico soggetto del test è il sito. Non ci sono limiti di tempo ma purtroppo non potrai farci domande durante lo svolgimento dei compiti. Saremo noi a darti eventuali suggerimenti in caso di prolungati problemi con il completamento di un compito. Buon lavoro!

**Task 1** - Stai portando avanti un'analisi approfondita riguardo soluzioni innovative per il tuo business. Quest'analisi durerà due settimane, quindi hai bisogno di salvare alcuni contenuti interessanti che trovi navigando nel sito. Effettua il login e salva due articoli legati al tuo business.

**Task 2** - Cerca delle soluzioni nel mondo IT da adottare nella tua azienda. Vuoi capire come applicare la tecnologia della Realtà Aumentata al tuo business. Scopri come un'esperienza immersiva può aggiungere valore al tuo business.

**Task 3** - Vuoi diventare cliente di reply per ottenere delle consulenze nel campo dell'IT. Scopri come contattare Reply via email e trova il numero di telefono dell'ufficio più vicino a dove ti trovi in questo momento.

Inserisci l'email trovata

La tua risposta

Inserisci il numero di telefono trovato

La tua risposta

**Task 4** - Sei un diretto competitor di Reply e stai effettuando un'analisi di mercato. Cerca l'utile netto dell'azienda all'anno 2019.

Inserisci l'utile netto trovato

La tua risposta

---

**Task 5 - La tua azienda vuole implementare un sistema di pagamento mobile.**  
Trova il sito web di Reply dedicato ai pagamenti mobile.

---

Inserisci l'url del sito trovato

La tua risposta

---

**Avanti**

## [A3.3] Task Sheet, Google Form – Post-Test Questionnaire

**Post-Test Questionario**

Per favore rispondi alle seguenti domande relative all'esperienza di testing appena svolta.

**1. Il linguaggio in cui sono state fornite le task era comprensibile?**

1      2      3      4      5

Per niente                                    Molto

**2. L'ammontare di informazioni nella Home Page era adeguato?**

1      2      3      4      5

Per niente                                    Molto

**3. L'uso del colore era appropriato?**

1      2      3      4      5

Per niente                                    Molto

**4. Le informazioni erano raggruppate in maniera consistente rispetto alla loro categoria di appartenenza?**

1      2      3      4      5

Per niente                                    Molto

**5. La navigazione attraverso le diverse pagine del sito seguiva una giusta gerarchia?**

1      2      3      4      5

Per niente                                    Molto

6. La navigazione e i colori erano consistenti tra le diverse pagine del sito?

1      2      3      4      5

Per niente

Molto

7. L'ammontare d'informazioni nelle singole pagine era adeguato?

1      2      3      4      5

Per niente

Molto

8. I titoli delle pagine e degli argomenti erano auto esplicativi ?

1      2      3      4      5

Per niente

Molto

9. Lo scroll delle pagine richiesto per raggiungere le informazioni richieste era adeguato?

1      2      3      4      5

Per niente

Molto

10. La funzione di Ricerca è stata d'aiuto e affidabile?

1      2      3      4      5

Per niente

Molto

11. La terminologia utilizzata è stata facilmente comprensibile?

1      2      3      4      5

Per niente

Molto

12. Le grafiche erano chiare e precise?

1      2      3      4      5

Per niente

Molto

13. Il testo e le grafiche presentate erano esteticamente piacevoli?

1      2      3      4      5

Per niente

Molto

14. In generale, la velocità di caricamento delle pagine era soddisfacente ?

1      2      3      4      5

Per niente

Molto

Per favore aggiungi qualsiasi altro commento in merito al sito

La tua risposta

[Indietro](#)

[Invia](#)

## A4 – User Testing Evaluator Sheets

### [A4.1] Evaluator Sheet 1

**Participant Name:** Monica Galluzzo

**User profile:** Worker

**Evaluator Name:** Federica Bucchieri

Task	Start Time	End time	Task Completion	Elapsed Time	Time on Task (mins)	Errors	Comments
<b>1</b>	14:08:02 PM	14:10:42 PM	Incomplete	2'40"	2.7	2	The user thinks that the task is successful completed due to errors.
<b>2</b>	14:11:32 PM	14:16:49 PM	Incomplete	5'07"	5.0	1	Some suggestions have been provided but the user decides to skip the task because she feels frustrated.
<b>3</b>	14:17:13 PM	14:22:18 PM	Completed with assistance	5'05"	5.0	2	The user needed help to complete the first part of the task. The second part was autonomously completed.
<b>4</b>	14:23:51 PM	14:26:13 PM	Completed	2'22"	2.3	0	The task was completed in an unexpected but equivalently correct way.
<b>5</b>	14:27:07 PM	14:31:10 PM	Completed with assistance	4'10"	4.2	3	The user followed an unexpected path but with a little suggestion, completed autonomously the task.

## [A4.2] Evaluator Sheet 1 – Qualitative observation

**Participant Name:** Monica Galluzzo**User profile:** Worker   **Evaluator Name:** Federica Bucchieri

Task	Perceived difficulty	Frustration & Disorientation	Unexpected Behaviours	Unsatisfaction	Disengagement	Comments
<b>1</b>	2	2	3	1	2	Task completed in the wrong way: the user saved the articles as PDF in the computer's folder. Also, the articles are chosen from the "What's on" section without any concern of about the correlation between the business are of the user and the article's topic.
<b>2</b>	4	5	4	4	3	The user starts by clicking on the webinar page and the using the search function in response to the increasing frustration reported. Task uncompleted because the user gave up.
<b>3</b>	2	3	1	2	3	Searching for the email resulted difficult for the user. She spent a lot of time on the About bar without finding a subgroup that convinced her to click on it. After sometimes the user opened "Corporate Governance" without any result. A suggestion was required to follow the About > About path.
<b>4</b>	1	1	2	1	2	The expected path was not followed but the user found an equivalent solution autonomously. The user founded the gross margin inside a pdf, available from About > Financial Reports.
<b>5</b>	3	4	4	2	3	The list of websites was found really easily and in a linear way. The main difficulty was scrolling the list and read all the names. This discouraged the user that started to search for alternative solution. The search function has been used. Then via Topic > Mobile and following different articles, the user ended up to an article about IoT. The articles contained the data required.

## [A4.3] Evaluator Sheet 2

**Participant Name:** Marco Buccchieri **User profile:** Worker **Evaluator Name:** Federica Buccchieri

Task	Start Time	End time	Task Completion	Elapsed Time	Time on Task (mins)	Errors	Comments
<b>1</b>	19:12:46 PM	19:18:36 PM	Complete	5'50"	5.9	3	Although the user did make some errors, in general the task was successfully completed in the expected time. During the task a website error compromised the success of it. The user was redirected to avoid frustration given to a website internal error (saving button rightly clicked didn't provide any result).
<b>2</b>	19:18:59 PM	19:21:13 PM	Complete	2'14"	2.3	0	The expected task was not perfectly performed but without any assistance, the user completed the task thanks to the Search functionality of the site.
<b>3</b>	19:21:41 PM	19:30:13 PM	Partially completed	8'32"	8.5	7	The second part of the task was performed easily and rapidly. The email research created so many errors in the user behaviour that he was stopped, and the task considered incomplete. The user started to try out a lot of functionalities and different web pages in order to fin the required email, he even tried the printing function of an article.
<b>4</b>	19:31:12 PM	19:32:17 PM	Complete	1'05"	1.0	0	The expected path was not followed but the user found an equivalent solution autonomously.
<b>5</b>	19:32:43 PM	19:39:11 PM	Complete with assistance	6'54"	6.9	3	The user started by exploring the Topic > Mobile section. He opened some articles in order to find the information required and eventually read articles them-selves. Exploiting the search functionality, he lost a lot of time. The, a hint was provided to come back to the expected path and the task was completed autonomously.

## [A4.4] Evaluator Sheet 2 – Qualitative observation

**Participant Name:** Marco Buccieri**User profile:** Worker   **Evaluator Name:** Federica Buccieri

Task	Perceived difficulty	Frustration & Disorientation	Unexpected Behaviours	Unsatisfactoriness	Disengagement	Comments
1	2	3	4	2	2	The Home Page was explored in order to find articles related to the user business. Moreover, the user tried to download an article saving it in the computer or clicked in "Show more" buttons and arrows. At some point, the website produced a malfunction that required the evaluator help because was compromising the task success.
2	1	1	2	2	1	Using the search function, the user correctly landed on the expected page. He didn't find precisely what we expected but an equivalent solution was founded so the task is considered completed.
3	4	5	5	3	1	The second part of the task was performed autonomously and with success. The email part was perceived really frustrating and difficult. This leaded to some trials without any reason, just hoping to find a solution. That is why the behaviour was so unexpected. The task was incomplete.
4	1	1	2	1	3	The task was completed in un unexpected but equivalently correct way. The user selected Financial Reports instead of Financial Highlights, finding the gross margin on the annual report pdf provided by a link.
5	3	4	4	3	2	The user focused too much in the "mobile" part of the task. He explored Topic > Mobile section an ended up opening a PDF (founded in the articles list) and trying to find the required url inside the file content. Then he explored other articles. Finally, a hint helped the user to find the correct path.

## [A4.5] Evaluator Sheet 3

**Participant Name:** Umberto De Francesco **User profile:** Student **Evaluator Name:** Lorenzo Cocchia

Task	Start Time	End time	Task Completion	Elapsed Time	Time on Task (mins)	Errors	Comments
<b>1</b>	21:04:23	21:09:18	Complete	4'55"	4.9	2	The user has completed the task searching from the search bar. Before finding the right solution, he opened other 2 articles for each category.
<b>2</b>	21:09:18	21:13:23	Incomplete	4'05"	4.1	4	The user has never completed the task. He started the research from the search bar but never found any case study with the “e-commerce” keyword. The task was interrupted after 4 times that the user opened an article from the results pretending that it was a case study, but it never was, and the user too realized it. Those have been considered errors.
<b>3</b>	21:13:30	21:19:00	Partially completed	5'30"	5.5	3	The errors were all due to the fact that the user was trying to reach to the latest challenge from the search bar. The user found a challenge under “Events”, but it was not the latest one. The user did not find the time of the competition.
<b>4</b>	21:19:00	21:25:12	Incomplete	6'12"	6.2	5	The user, having the page in Italian, had the webinar section not visible in the navigation bar. Because of this, he tried to navigate from one page to another starting from the search bar without arriving to any meaningful result. The evaluator gave the advice to look for the webinar from the navigation bar. After that, he tried from the “Events” section, trying to set the date, but never found the site. Finally the user gave up for being frustrated.
<b>5</b>	21:25:20	21:28:27	Completed	3'07"	3.1	0	The user discovered independently that there were different “JOIN” pages depending on the language given by the user. Since he set the page in Italian, he could only see the Italian availabilities. In the end, he found how to open the available jobs in UK independently and performed the task well. The errors are related to the initial

## [A4.6] Evaluator Sheet 2 – Qualitative observation

**Participant Name:** Umberto De Francesco    **User profile:** Student    **Evaluator Name:** Lorenzo Cocchia

Task	Perceived difficulty	Frustration & Disorientation	Unexpected Behaviours	Unsatisfaction	Disengagement	Comments
<b>1</b>	2	4	1	2	1	The user found the articles almost immediately using the search bar provided by the site. He complained about some result retained not consistent with the research that he performed.
<b>2</b>	4	5	4	3	2	Again, the user searches starting from the search bar. This time he complained a lot about the results given by the search function of the site.
<b>3</b>	5	5	5	4	3	The user seemed to be frustrated by the results of the search bar. This time he complained in a detailed way, saying that the results were wrong and counter intuitive. For example, he found an article inside the search bar's results with the title in German, but after clicked on that he realized that the article was in Italian actually, with the title in English.
<b>4</b>	5	5	5	5	5	The user was furious after having tried to perform this task. He was complaining about everything that he saw into the site. From the inconsistent results gave by the search bar from the incoherency of the articles presented by the site trying to search a certain webinar.
<b>5</b>	4	5	5	4	2	The user complained again very much about the 2 different versions of the site depending on the language set.

## [A4.7] Evaluator Sheet 6

**Participant Name:** Claudio Cocchia**User profile:** Worker **Evaluator Name:** Lorenzo Cocchia

Task	Start Time	End time	Task Completion	Elapsed Time	Time on Task (mins)	Errors	Comments
<b>1</b>	18:30:23	18:43:26	Incomplete	13'3"	13	0	The user has not been able neither to register nor to login with the credentials of the evaluator. Maybe there was some server error.
<b>2</b>	18:43:30	18:48:20	Incomplete	4'50"	4.9	5	The user seemed disoriented. Being not proficient in English it was clear that he was not knowing what "Topics" meant. He searched a bit on the homepage, then opened the tab Industries>Financial Industries, continuing to read the titles of the articles. The evaluator decided to give the hint to translate the word "Topics", but even with this suggestion, the user hovered two times above "Augmented Reality" without understating that that was the translation of what he was searching in English. Then, when he clicked on "Topics>Digital Experience", the task was considered failed for too many errors.
<b>3</b>	18:48:20	18:54:10	Complete	5'53"	5.95	1	The user scrolled all the homepage knowing that at the bottom of the page often there are the contacts information. Then, he clicked several times on "About" on the navigation tab expecting that a page opened. The evaluator decided to give the hint to click on the "+" and making the translation of "About Reply". The user found immediately the email, but for the telephone it was needed another translation of "See all Reply Offices" (the page was in Italian before the

								last click). Then, he successfully found the telephone number
<b>4</b>	18:54:10	18:55:15	Partially Complete	1'05"	1	0		There was the news of the financial statements approved by the Reply's board among the latest news on the homepage. The user found immediately the quantity requested. Actually, it was requested the 2019 net profit, so the task is to be considered only partially complete.
<b>5</b>	18:55:15	19:00:55	Complete	5'40"	5.7	2		The user started to search in the homepage, then in the tab "Topics>Mobile", and finally he tried a search from the "Search" functionality. After the suggestion to watch on the "About" tab, he was able to find the site after having scrolled all the websites owned by Reply

## [A4.8] Evaluator Sheet 7 – Qualitative observation

**Participant Name:** Claudio Cocchia**User profile:** Worker**Evaluator Name:** Lorenzo Cocchia

Task	Perceived difficulty	Frustration & Disorientation	Unexpected Behaviours	Unsatisfaction	Disengagement	Comments
<b>1</b>	5	5	5	5	5	There was for sure some error. Even the evaluator was not able to log with his credentials.
<b>2</b>	5	5	4	5	5	The main issue was the scarce knowledge of the English language. This task requested to navigate from the navigation bar which is always in English.
<b>3</b>	3	4	4	4	3	Again, there was a dealignment between what the user expected and what the site was reacting. The user tried to set the site in Italian several times, but it seemed that when he clicked to open a new screen the language was reset to English sometimes. This disoriented the user and made the hints a need to proceed.
<b>4</b>	1	1	1	1	1	Here the user found immediately the requested financial quantity since it was a fresh news. The response was not precise, but the user seemed relaxed for this task.
<b>5</b>	3	5	3	2	2	Again, the user seemed conscious that without knowing English proficiently he was not able to use the site. He tried before clicking "Mobile" but it was a "Topics" tab, then scrolled the whole homepage, then tried with the search function. After the suggestion he was immediately able to navigate successfully to the requested information.

## [A4.9] Evaluator Sheet 5

**Participant Name:** Marco Franco **User profile:** Student **Evaluator Name:** Alessandro Corsini

Task	Start Time	End time	Task Completion	Elapsed Time	Time on Task (mins)	Errors	Comments
<b>1</b>	20:38:04	20:39:54	Complete	1'50"	1.8	0	The user has completed the task using the search bar, he found the two articles in the results very easily looking at the highlighted words.
<b>2</b>	20:39:54	20:44:14	Incomplete	4'10"	4.1	2	The user starts watching the huge homepage without finding anything interesting, then he searches "e-commerce" with the search bar. The first article he opens up is not a case study. Then he opens up another article that is not a case study.
<b>3</b>	20:44:14	20:50:34	Incomplete	6'20"	6.5	3	The user uses the search bar to search "challenge Reply" and then opens an article that is not related to a challenge. After he opened the Sustainable Investment challenge he selects another challenge (that took place in 2020) at the bottom of the page. Then he watched the video to find the prize.
<b>4</b>	20:50:34	20:55:59	Complete with assistance	5'25"	5.4	7	The user searches on the search bar, without finding anything then he clicks on the suggestion of the website finding another error page. Again the user tries to use the search bar without positive results. Then the user finds the upper bar and goes to the topic "Internet of things" and there he opens an article that is not a webinar. He tries to search the IoT topics in the page of the webinars without finding any results, after a while he found the link to the past webinars and the requested webinar.
<b>5</b>	20:55:59	20:59:02	Complete	3'03"	3.0	1	The user correctly reaches the page of the "Careers" but then he watches the video of Life in Reply.

## [A4.10] Evaluator Sheet 5 – Qualitative observation

**Participant Name:** Marco Franco **User profile:** Student **Evaluator Name:** Alessandro Corsini

Task	Perceived difficulty	Frustration & Disorientation	Unexpected Behaviours	Unsatisfaction	Disengagement	Comments
1	1	2	1	2	3	The user found it very easy searching with the search bar.
2	3	3	2	4	4	The user didn't find anything interesting in the homepage however he scrolled it for a long time. Then he searched in the search bar opening two wrong articles, but it is understandable because the tag "case study" is not visible if the user searches an article with the search function.
3	4	3	4	3	2	The user didn't manage to find the last challenge of Reply and it was quite difficult to find the prize but the video was engaging and at the end he found the prize inside the video.
4	5	4	4	4	4	This task was very difficult to be completed, the evaluator was forced to give a suggestion to the participant, but then he found the correct webinar.
5	4	5	2	3	2	The task was very difficult because the link to apply for the internship is not well visible, so the user made some errors but at the end he found the solution to the task without any suggestion.

## [A4.11] Evaluator Sheet 6

**Participant Name:** Gabriele Trisolino **User profile:** Student **Evaluator Name:** Alessandro Corsini

Task	Start Time	End time	Task Completion	Elapsed Time	Time on Task (mins)	Errors	Comments
1	11:23:00	11:26:35	Incomplete	3'35"	3.5	3	The user scrolled down a lot in the Homepage without finding what he was searching for easily. He opened a wrong article. He didn't manage to find the cloud gaming article.
2	11:26:35	11:29:40	Incomplete	3'05"	3.1	2	The user found the articles scrolling the homepage, he managed to find two articles related to the e-commerce, anyway these two articles weren't case studies.
3	11:29:40	11:33:35	Complete	3'55"	3.9	1	The user wasn't able to find the time of the challenge because it was not present, however he did everything correctly.
4	11:33:35	11:38:40	Complete	5'05"	5.1	3	The user didn't see the section dedicated to the webinars. He visited the page of the events searching the specific date. He clicked on the wrong event. Then he used the search bar without finding anything interesting.
5	11:38:40	11:42:40	Complete with assistance	4'00"	4.0	1	The user was able to find quickly the UK section, however he was not able to find the application for an internship.

## [A4.12] Evaluator Sheet 6 – Qualitative observation

**Participant Name:** Gabriele Trisolino **User profile:** Student **Evaluator Name:** Alessandro Corsini

Task	Perceived difficulty	Frustration & Disorientation	Unexpected Behaviours	Unsatisfaction	Disengagement	Comments
<b>1</b>	4	5	2	5	4	The user wasn't able to find the bar of the topics so he couldn't find easily the article he was asked to search. At the end he was quite frustrated.
<b>2</b>	1	2	3	3	3	The user completed the task only partially but without being frustrated. The main problem is that the user wasn't able to find the bar of the topics to search for e-commerce.
<b>3</b>	3	2	2	3	3	The user completed the task quite easily, he found very fast the sustainable reply challenge and the requested information.
<b>4</b>	4	5	4	5	5	The user was able to complete the task correctly but only after a lot of errors that contributed to his frustration and disorientation.
<b>5</b>	4	4	2	4	3	The user completed the first part of the task very quickly and without any difficulties. However he didn't find how to reach the application for the internship and he was quite frustrated when he discovered that the page About→About→Careers was different from Join→Go to careers

## A5 – User Testing Post-Questionnaire Data

### [A5.1] Post-Questionnaire Data – User profile: Worker

Questions	User 1	User 2	User 3
1. Il linguaggio in cui sono state fornite le task era comprensibile?	3	5	4
2. L'ammontare di informazioni nella Home Page era adeguato?	2	3	2
3. L'uso del colore era appropriato?	2	4	4
4. Le informazioni erano raggruppate in maniera consistente rispetto alla loro categoria di appartenenza?	3	3	3
5. La navigazione attraverso le diverse pagine del sito seguiva una giusta gerarchia?	2	5	4
6. La navigazione e i colori erano consistenti tra le diverse pagine del sito?	2	3	3
7. L'ammontare d'informazioni nelle singole pagine era adeguato?	2	5	5
8. I titoli delle pagine e degli argomenti erano auto esplicativi?	3	4	5
9. Lo scroll delle pagine richiesto per raggiungere le informazioni richieste era adeguato?	2	5	2
10. La funzione di Ricerca è stata d'aiuto e affidabile?	3	1	2
11. La terminologia utilizzata è stata facilmente comprensibile?	2	4	2
12. Le grafiche erano chiare e precise?	2	3	4
13. Il testo e le grafiche presentate erano esteticamente piacevoli?	1	5	5
14. In generale, la velocità di caricamento delle pagine era soddisfacente?	4	1	3

### [A5.2] Post-Questionnaire Open Comment – User profile: Worker

User	Comment
User 1	Le task richieste non sono intuitivamente disponibili nel sito in lingua italiana. I contatti e le mail, che dovrebbero essere di immediata consultazione, sono introvabili entro due minuti di ricerca. Il tasto SALVA relativo agli articoli pubblicati rappresentato dal simbolo grafico di Reply non è in alcun modo intuitivamente ricollegabile alla volontà di salvare il contenuto.
User 2	non sono abituato ad entrare in un sito e cercare tutte le informazioni all'interno, opto spesso per uscire e fare una ricerca su Google poiché ormai lo uso da diverso tempo e mi trovo più a mio aggio a fare delle ricerche per parole chiave
User 3	Sito molto completo però di non immediata comprensione per utenti alle prime armi

### [A5.3] Post-Questionnaire Data – User profile: Student

Questions	User 1	User 2	User 3
1. Il linguaggio in cui sono state fornite le task era comprensibile?	4	4	4
2. L'ammontare di informazioni nella Home Page era adeguato?	2	5	2

3. L'uso del colore era appropriato?	4	4	2
4. Le informazioni erano raggruppate in maniera consistente rispetto alla loro categoria di appartenenza?	1	3	2
5. La navigazione attraverso le diverse pagine del sito seguiva una giusta gerarchia?	1	3	1
6. La navigazione e i colori erano consistenti tra le diverse pagine del sito?	3	2	1
7. L'ammontare d'informazioni nelle singole pagine era adeguato?	2	2	2
8. I titoli delle pagine e degli argomenti erano auto esplicativi?	1	2	1
9. Lo scroll delle pagine richiesto per raggiungere le informazioni richieste era adeguato?	3	4	1
10. La funzione di Ricerca è stata d'aiuto e affidabile?	3	4	2
11. La terminologia utilizzata è stata facilmente comprensibile?	3	3	3
12. Le grafiche erano chiare e precise?	3	3	3
13. Il testo e le grafiche presentate erano esteticamente piacevoli?	4	3	3
14. In generale, la velocità di caricamento delle pagine era soddisfacente?	1	1	2

#### [A5.4] Post-Questionnaire Open Comment – User profile: Student

User	Comment
User 1	Alcune funzionalità non sono ottimizzate in maniera corretta per la lingua italiana, cosa che ha creato non poche difficoltà nello svolgimento dei task assegnati. Ad esempio, trovare l'impiego in UK è praticamente impossibile.
User 2	In generale le funzionalità del sito sono abbastanza fluide, sebbene non di facile comprensione. Sicuramente il maggiore problema riscontrato è stato l'utilizzo della funzionalità di ricerca: una pagina proprio non funzionava.
User 3	Sito completamente incomprensibile. Da rifare.