

# REBOOT: REdesigning for the usaBility imprOvement of Online Therapy

## Project Management report

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## Table of contents

Introduction .....	3
1. Ethnographic research .....	3
1.1. Segmentation .....	3
1.2. User Research .....	4
1.2.1. Survey .....	4
1.2.2. Interviews .....	5
1.2.3 Task analysis .....	6
2. Assessment of existing resources .....	9
2.1 Expert Usability Review .....	9
2.1.1 Choice of guidelines .....	9
2.1.2 First inspection of the system .....	10
2.1.3 Direct analysis: system vs. guidelines .....	12
2.1.4 Reverse analysis: guidelines vs. system .....	15
2.2 User Testing .....	18
2.2.1 Definition of the testing protocol .....	19
2.2.2 Tests summary .....	21
2.2.3 Analysis of subjective and objective data .....	27
2.2.4 Urgency curve .....	29
3. Feasibility study .....	31
3.1. Context of use .....	31
3.2 Personas .....	32
3.2.1 Ettore Padovesi .....	33
3.2.2 Marco Ricci.....	34
3.2.3 Francesca Corradini .....	35
3.2.4 Sara Lasagni .....	36
3.2.5 Marina Rinaldi .....	37
3.2.6 Silvestro Trentini.....	38
3.3 Scenarios .....	39
3.3.1 First scenario: Ettore is worried about Covid-19 outbreak .....	39
3.3.2 Second scenario: Marco has mental health issue .....	40
3.3.3. Third scenario: Francesca's friend has a mental health issue ...	41

3.3.4 Fourth scenario: Sara has a mental health issue but is too shy to speak to someone about it .....	42
3.3.5 Fifth scenario: Marina's anxiety reaches the breaking point ....	42
4. Design proposal .....	44
4.0 Adoption of a design model .....	44
4.1 Information architecture .....	44
4.2 The CAO=S model .....	46
4.3 Interaction design .....	51
4.4 Structure blueprint .....	54
4.5 Wireframes .....	55
5. Evaluation of design .....	69
5.1 Inspection .....	69
5.1.1 Cognitive Walkthrough .....	69
5.1.1.1 Our cognitive walkthrough .....	69
5.1.1.2 Self evaluation of the cognitive walkthrough .....	71
5.1.2 Guidelines evaluation .....	71
5.2 User testing .....	74
5.2.1 Definition of the testing protocol .....	74
5.2.2 Test summary .....	76
5.2.3 Analysis of the problems reported by users .....	79
5.2.4 Final user testing .....	81
5.2.5 Analysis of subjective and objective data .....	82
Final Recommendations .....	83
Conclusion .....	84
References .....	86

# Introduction

[SIPO](#)<sup>1</sup> is a group of psychologists in Italy offering their services online. After the advent of Covid-19 and the subsequent safety measures, more and more people struggled with depression and loneliness, making mental health a priority in the list of needs that had to be addressed. Several organizations rose to the challenge, offering free online support to those who needed it. SIPO was one of them: a section dedicated to Covid was added to their website, connecting people with psychologists for one or several free online sessions. However, it soon became apparent that only a small percentage of the potential users (around 400 out of 1,5 million according to this [article](#)<sup>2</sup> of Dott. Algeri) were actually using their services, even after their offer of free therapy. This project aims at discovering the reason behind the lukewarm reception from the target audience and proposing a redesign of the SIPO website that will attract more users.

## 1. Ethnographic Research

### 1.1 Segmentation

Taking into consideration the nature of the services offered by SIPO, we began our user research by looking into the population segment affected by mental health issues attributed to Covid-19 or other causes. We then narrowed down this group of people by investigating the segment willing to seek help by a psychologist, since the focus is placed on the lack of interest in the services of the particular organization and not in the services of psychologists in general. According to [ISTAT](#)<sup>3</sup> the age-group 15-44 is the one most affected by depression, while a [Repubblica](#) survey (Ferro, 2020)<sup>4</sup> found that the lockdown had a negative impact on the mental health of mostly the ages 18-29 and 30-44. We decided to focus on the age group 18-29 and

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<sup>1</sup> Sipo website: <https://psicologi-online.it/>

<sup>2</sup> Algeri, D. Psicologia online e di consulenza a distanza: i servizi del Sipo, Retrieved from <https://www.davidealgeri.com/psicologia-online-del-sipo/>

<sup>3</sup> Istat, 2019. Mental health at various stages of life. Retrieved from: <https://www.istat.it/en/archivio/219812>

<sup>4</sup> Ferro, E. Coronavirus, effetto lockdown. Retrieved from [https://www.repubblica.it/cronaca/2020/05/09/news/coronavirus\\_effetto\\_lockdown\\_ansia\\_e\\_depressione\\_per\\_i\\_85\\_dei\\_giovani-256134039/](https://www.repubblica.it/cronaca/2020/05/09/news/coronavirus_effetto_lockdown_ansia_e_depressione_per_i_85_dei_giovani-256134039/)

address their absence from a platform like SIPO offering free or paid services, from which they could benefit. We opted for the specific age group because according to The [Wall Street Journal](#) (Drexler, 2019)<sup>5</sup> its members are open to the idea of using the services of a psychologist. Furthermore, according to a [survey](#) done by Istituto Piepoli (2019)<sup>6</sup>, nowadays mental health services are less of a taboo in Italy. Taking into consideration this data, we exclude the taboo status of therapy from the list of potential reasons behind the absence of our target audience from the SIPO platform. Therefore, we can safely assume that the target users are interested in these services, but possibly not in their digital version.

## 1.2 User Research

In this section we present our user research. The data we received was essential in understanding our target users and the context of their interaction with the technology of interest.

### 1.2.1 Surveys

A study<sup>7</sup> conducted on the current users of SIPO confirms the previous demographic segmentation and explores the motivations of the users. They found that users sought help through SIPO by following online sessions mostly because they needed urgent support, but also for the practical matter of convenience. These users were highly motivated to continue their online therapy sessions. Taking into consideration these findings, we commenced our own investigation into the motivation of potential users and possible causes of their absence from the platform

We also created our own survey in order to further investigate our target users and their relations to the types of services offered by the SIPO site. We used Google forms to create a survey that included questions about mental health, therapy and SIPO. More specifically, we asked users about their opinion on the value of therapy, traditional or online, their own

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<sup>5</sup> Drexler, P. (2019). Millennials are the therapy generation. Retrieved from: <https://www.wsj.com/articles/millennials-are-the-therapy-generation-11551452286>

<sup>6</sup> Istituto Piepoli (2019). La psicologia e la vita del paese. Retrieved from: <https://www.quotidianosanita.it/allegati/allegato9192281.pdf>

<sup>7</sup> <http://psychotherapyjournal.org/request-psychological-help-digital-age-offering-counseling-chat-video-counseling/>

willingness to seek professional help, the state of their mental health and their knowledge of SIPO and its services. We also asked them about their preferences regarding technology and some basic information, like education level and age.

We asked people between the ages of 18 and 29 to complete the form, with varying educational level and technical competences. All participants agreed that therapy can help one resolve mental health issues, with varying opinions about the reasons why people seek professional help. The striking majority has considered in the past seeing a therapist, while half of them admitted that the Covid-19 emergency has affected their mental health.

Only a few of the participants had used other services that involved video calls, but more than half of them knew about online therapy. Their answers about the efficacy of online therapy when compared to that of traditional therapy were almost equally distributed between online therapy being less or equally efficient as traditional therapy. No participants thought of the online therapy as being more efficient, yet half of them answered that they would try it mostly during an emergency like Covid-19 or for the purpose of convenience. When asked what would discourage them to seek help online, the majority replied that they find this way of doing therapy too impersonal. Finally, only one participant had heard about SIPO, while a few of the participants knew about other apps offering online therapy.

### **1.2.2 Interview**

We conducted five interviews, to delve into the mentality of our target users as regards mental health and therapy. We asked them the following questions:

1. How do you feel about therapy? Does it help people in your opinion?
2. Would you consider seeking the help of a psychologist?
3. How has your mental health been affected by Covid?
  - a. If negatively, would you consider therapy?
4. Have you ever heard of online therapy? Do you know how it works?
5. Do you think online therapy is as beneficial as traditional therapy?
6. Would you consider following online sessions?
  - a. If not, would you consider it during a lockdown?

Most subjects reported that they recognize the value of therapy and would consider following sessions, if they haven't already. Most felt that Covid-19 has affected their mental health, but perhaps not to a point that they would seek professional help. All of them expressed reservations regarding the efficiency of online therapy: some characterized it as not seeming professional, others as impersonal or not capable of creating the right atmosphere that would enable dialogue and make one feel at ease. Some expressed concerns about the privacy of a video call, as well, fearing that someone else might be listening or even recording what they say. Still, some would try following online sessions if they did not have another choice or because it appeals more to their timid nature.

### **1.2.3 Task analysis**

We identified the main tasks a user of the site may be interested in and we traced the sequence of steps required to achieve them. Task analysis provided us with insight into the number of actions a user must complete in order to reach the essential services of SIPO and allowed us to contemplate possible areas of improvement.

#### **1. Booking an appointment with a psychologist**

- On the home page, you click on “Richiedi aiuto ad uno psicologo” in the first navbar, on the right.
- Then you can browse and see all the psychologists.
- When you find the one who suits your needs, you click on “Richiedi consulenza”.
- A new page will open with a form that requires information such as the user's name, e-mail, education, profession, etc. At the end of the page, you may describe your problem in a text field and state your preferences for a time slot dedicated to your online therapy sessions. By submitting the form, you will contact the psychologist.

##### Alternative path:

- On the home page, you click on “Trova psicologo” in the second navbar, on the left. It will take you to the page analyzed in the preceding paragraph. The following steps are therefore the same.

##### Alternative path:

- On the home page, you scroll down until you see a yellow button with the phrase “Richiedi una consulenza con uno psicologo online” written on it. The button will bring you to the page analyzed in the first paragraph. The next steps are the same.

Alternative path:

- On the home page, you scroll down until you see a heading in yellow: “Cerca tra gli psicologi online”. Here you can see a picture and a description of some psychologists.
- Clicking on “visualizza profilo” you can see the profile of a specific psychologist.
- By clicking on “Richiedi consulenza”, a new page will open with the form. You will have to fill it with your information. The following steps are the same as the ones described in the first paragraph.

## **2. Looking for articles about mental health issues**

- On the home page, you click on “Articoli” in the second navbar, on the right. A drop down menu will open.
- On the menu, you select the subject matter you are interested in: anxiety, coronavirus, relationship problems, etc.
- After choosing the problem and clicking on it, a new page will open with the articles concerning this specific issue. They are displayed in chronological order, going from the newest to the oldest one.

Alternative path:

- On the home page, you scroll down, nearly till the end of the page. You will see a yellow heading saying “Approfondimenti sui disturbi trattati”. From here, you can choose the macroarea you are interested in: sexual disorders, food disorders, obsessive-compulsive disorder, etc.
- By clicking on the topic you are interested in, you will be taken to an article page which describes in a general but complete way the problem you have chosen.

## **3. Searching for information about their problem (for example stress)**

- On homepage, hover on “Test” on the second row of navbar.
- Click on “stress-> fai il test”.
- Read explanation about the issue, its causes and symptoms and some advice on how to handle the issue.



#### **4. Searching for different types of therapy**

- Scroll down the homepage of the website to the bottom of the page.
- On the footer, under the section “servizi per tutti” click on “domande frequenti sulla consulenza psicologica online”.
- Open and read the sections “Quando è opportuno rivolgersi allo psicologo online” and “che aiuto può dare lo psicologo online”.
- Scroll to the bottom of the page.
- On the footer click on “gruppi di sostegno psicoeducativo”. Read what a support group is and scroll along the page looking for the one that deals with a specific issue.

#### **5. Look for a psychologist who is expert on a specific disease (e.g. depression)**

- Scroll down on homepage,
- On section “Cerca tra gli psicologi online”, click on second drop-down menu
- Select Depressione
- Click on Cerca
- The resulting page is once again the homepage; scroll down till section “Cerca tra gli psicologi online”
- View results under search function

#### **6. Complete self-diagnosis test about a specific problem**

- On homepage, click on “Test” on the navbar at the top of the page
- Scroll down and select the test you want to complete
- Scroll down till the end of the page and start the test
- When you complete the test, write down your email
- Agree with privacy policy
- Click on Send

##### Alternative path:

- On homepage hover over “Test” on the navbar at the top pf the page with the mouse
- Select the test you want to complete from drop down menu
- Scroll down till the end of the page and start the test
- When you complete the test, write down your email
- Agree with privacy policy
- click on Send

Taking into consideration the nature of the site, it is important to address the information overload and the number of steps required to complete a task, where applicable. In general, tasks were not found hard to complete, but there is room for improvement as regards efficiency and intuitiveness.

## **2. Assessment of existing resources**

The website chosen for the assessment of existing resources is [SIPO - Servizio Italiano di Psicologia Online](#). This website aims at offering online therapy support to people needing it, with a special focus on the Covid-19 pandemic. However, it also gives people the opportunity to complete tests for the self-evaluation of issues, together with articles and studies concerning various areas of mental health.

### **2.1 Expert usability review**

The expert usability review is an objective analysis of the system that does not involve the users, but is based instead on a series of reliable guidelines concerned with usability and UX issues.

#### **2.1.1 Choice of guidelines**

For the purposes of the expert usability review, the 247 web usability guidelines developed by Userfocus were chosen. This set of guidelines applies specifically to websites, therefore it was the one which best suited our needs. These guidelines apply to various sectors, but we chose only those we were interested in, which allowed us to do a more focused analysis. The 247 web usability guidelines are divided into the following categories:

- **Home page usability:** 20 guidelines to evaluate the usability of home pages.
- **Task orientation:** 44 guidelines to evaluate how well a website supports the users tasks.

- **Navigation and IA:** 29 guidelines to evaluate navigation and information architecture.
- **Forms and data entry:** 23 guidelines to evaluate forms and data entry.
- **Trust and credibility:** 13 guidelines to evaluate trust and credibility.
- **Writing and content quality:** 23 guidelines to evaluate writing and content quality.
- **Page layout and visual design:** 38 guidelines to evaluate page layout and visual design.
- **Search usability:** 20 guidelines to evaluate search.
- **Help, feedback and error tolerance:** 37 guidelines to evaluate help, feedback and error tolerance.

Given the extremely high number of guidelines, we made a selection and chose only the guidelines that suited our needs.

### 2.1.2 First inspection of the system

The navbar is located in the top right corner of the website and it appears on each page in the same place. It highlights the most important features of the site for users and for psychologists. It is presented in two rows (but only the second row stays in sight when scrolling through the page).

The first row of the navbar has four items that become yellow when the mouse pointer hovers them. However, when the user is looking at any webpage, they do not give any feedback concerning which page is currently being viewed. The items that are presented are the following:

- Ask for a psychologist's help: this item links to a page where you can look for a psychologist and book an appointment. Actually, on the row below there is "find a psychologist" which sends users to the exact same page.
- Log in: this option is reserved to the psychologists working for sipo, and it is not for the users.
- Psychologists' training: the link doesn't work.
- Become a psychologist of SIPO: it links the page where a psychologist can submit their CV and pay the fee in order to be added to the group.

The second row of the navbar has 7 items, (all in grey but two are yellow). They never change color and stay grey when you hover them with the mouse pointer. The items are the following:

- Find a psychologist: when hovered over, a drop down menu appears with just the FAQ item. It sends the user to the page where you can look for a psychologist and book an appointment. The FAQ page sends the users to SIPO'S answers for common questions when considering online therapy.
- For companies: it links the page where SIPO lists the names of the psychologists who offer help to companies and organizations in the work environment.
- The psychologist replies: it links to the page where you can ask questions and read other people's questions with answers given by several psychologists.
- Coronavirus help desk: a yellow link that sends users to a page devoted to finding help for coronavirus induced anxiety.
- Articles: it links articles related to mental health. When the link is hovered over, it displays a dropdown menu which sorts articles by category (If you open articles you get the list of articles from most recent to oldest; if you click on an item of the dropdown menu you get only related articles but the first option in the page is to ask a question on the topic yourself).
- Test: it links a page where users or possible future users can take a self-diagnosis test and read information about the respective problems/disorders. If the link is hovered over, a dropdown menu is displayed with each issue and sends people directly to the page of a specific issue and corresponding test.
- Facebook logo: in yellow, but turns grey if you hover over it, it directs users to the Facebook page of SIPO.

The homepage of the website communicates efficiently what the website is about: online therapy done by professional psychologists. Through the vertical scrolling, a typical design of today's websites, the user can find information and buttons to:

- look for a psychologist, both online or near to their home
- book an online appointment
- see a brief but exhaustive profile of the psychologists taking part to the project
- read some reviews written by patients
- try some psychology test and read articles about the most common problems/disorders
- read some people's questions and answers
- read up-to-date news concerning today's most discussed subject matters
- see the payment methods

### 2.1.3 Direct analysis: system vs. guidelines

We analyzed the website's pages and compared them with the guidelines we chose to understand which guidelines were violated by the web page at issue.

Page	Violated guidelines
Homepage	2) The home page contains a search input box 11) Navigation choices are ordered in the most logical or task-oriented manner (with the less important corporate information at the bottom) 13) All corporate information is grouped in one distinct area (e.g. "About Us") 18) The home page is professionally designed and will create a positive first impression 19) The design of the home page will encourage people to explore the site 25) Information is presented in a simple, natural and logical order 57) When a page presents a lot of information, the user can sort and filter the information 67) Navigation choices are ordered in the most logical or task-oriented manner 78) Terminology and conventions (such as link colours) are (approximately) consistent with general web usage 85) Navigation-only pages (such as the home page) can be viewed without scrolling 136) Information is organised hierarchically, from the general to the specific, and the organisation is clear and logical 155) On all pages, the most important information (such as frequently used topics, features and functions) is presented on the first screenful of information ("above the fold") 173) The site is pleasant to look at 178) Colour is used to structure and group items on the page 180) Emboldening is used to emphasise important topic categories 184) The colours work well together and complicated backgrounds are avoided
Trova psicologo	11) Navigation choices are ordered in the most logical or task-oriented manner (with the less important corporate information at the bottom) 57) When a page presents a lot of information, the user can sort and filter the information 67) Navigation choices are ordered in the most logical or task-oriented manner 78) Terminology and conventions (such as link colours) are

	<p>(approximately) consistent with general web usage</p> <p>136) Information is organised hierarchically, from the general to the specific, and the organisation is clear and logical</p> <p>155) On all pages, the most important information (such as frequently used topics, features and functions) is presented on the first screenful of information (“above the fold”)</p> <p>178) Colour is used to structure and group items on the page</p> <p>180) Emboldening is used to emphasise important topic categories</p> <p>184) The colours work well together and complicated backgrounds are avoided</p> <p>212) It is easy to get help in the right form and at the right time</p> <p>216) The site provides good feedback (e.g. progress indicators or messages) when needed (e.g. during checkout)</p> <p>231) The site provides feedback (e.g. “Did you know?”) that helps the user learn how to use the site</p> <p>247) It is easy to “undo” (or “cancel”) and “redo” actions</p>
Sportello coronavirus	<p>57) When a page presents a lot of information, the user can sort and filter the information</p> <p>78) Terminology and conventions (such as link colours) are (approximately) consistent with general web usage</p> <p>133) Pages use bulleted and numbered lists in preference to narrative text</p> <p>141) Pages are quick to scan, with ample headings and sub-headings and short paragraphs</p> <p>178) Colour is used to structure and group items on the page</p> <p>247) It is easy to “undo” (or “cancel”) and “redo” actions</p>
Lo psicologo risponde	<p>11) Navigation choices are ordered in the most logical or task-oriented manner (with the less important corporate information at the bottom)</p> <p>57) When a page presents a lot of information, the user can sort and filter the information</p> <p>67) Navigation choices are ordered in the most logical or task-oriented manner</p> <p>78) Terminology and conventions (such as link colours) are (approximately) consistent with general web usage</p> <p>133) Pages use bulleted and numbered lists in preference to narrative text</p> <p>136) Information is organised hierarchically, from the general to the specific, and the organisation is clear and logical</p> <p>141) Pages are quick to scan, with ample headings and sub-headings and short paragraphs</p> <p>155) On all pages, the most important information (such as frequently used topics, features and functions) is presented on the first screenful of information (“above the fold”)</p> <p>184) The colours work well together and complicated backgrounds are avoided</p>

Articoli	<p>11) Navigation choices are ordered in the most logical or task-oriented manner (with the less important corporate information at the bottom)</p> <p>25) Information is presented in a simple, natural and logical order</p> <p>57) When a page presents a lot of information, the user can sort and filter the information</p> <p>67) Navigation choices are ordered in the most logical or task-oriented manner</p> <p>78) Terminology and conventions (such as link colours) are (approximately) consistent with general web usage</p> <p>85) Navigation-only pages (such as the home page) can be viewed without scrolling</p> <p>133) Pages use bulleted and numbered lists in preference to narrative text</p> <p>136) Information is organised hierarchically, from the general to the specific, and the organisation is clear and logical</p> <p>141) Pages are quick to scan, with ample headings and sub-headings and short paragraphs</p> <p>155) On all pages, the most important information (such as frequently used topics, features and functions) is presented on the first screenful of information (“above the fold”)</p> <p>178) Colour is used to structure and group items on the page</p> <p>180) Emboldening is used to emphasise important topic categories</p> <p>184) The colours work well together and complicated backgrounds are avoided</p>
Test	<p>11) Navigation choices are ordered in the most logical or task-oriented manner (with the less important corporate information at the bottom)</p> <p>25) Information is presented in a simple, natural and logical order</p> <p>57) When a page presents a lot of information, the user can sort and filter the information</p> <p>67) Navigation choices are ordered in the most logical or task-oriented manner</p> <p>75) Good navigational feedback is provided (e.g. showing where you are in the site)</p> <p>78) Terminology and conventions (such as link colours) are (approximately) consistent with general web usage</p> <p>85) Navigation-only pages (such as the home page) can be viewed without scrolling</p> <p>131) Text is concise, with no needless instructions or welcome notes</p> <p>136) Information is organised hierarchically, from the general to the specific, and the organisation is clear and logical</p> <p>141) Pages are quick to scan, with ample headings and sub-headings and short paragraphs</p>

	<p>155) On all pages, the most important information (such as frequently used topics, features and functions) is presented on the first screenful of information (“above the fold”)</p> <p>172) There is a good balance between information density and use of white space</p> <p>173) The site is pleasant to look at</p> <p>178) Colour is used to structure and group items on the page</p> <p>180) Emboldening is used to emphasise important topic categories</p> <p>183) Meaningful labels, effective background colours and appropriate use of borders and white space help users identify a set of items as a discrete functional block</p> <p>184) The colours work well together and complicated backgrounds are avoided</p> <p>185) Individual pages are free of clutter and irrelevant information</p> <p>216) The site provides good feedback (e.g. progress indicators or messages) when needed (e.g. during checkout)</p> <p>226) The site provides immediate feedback on user input or actions</p> <p>231) The site provides feedback (e.g. “Did you know?”) that helps the user learn how to use the site</p> <p>232) The site provides context sensitive help</p> <p>247) It is easy to “undo” (or “cancel”) and “redo” actions</p>
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#### 2.1.4 Reverse analysis: guidelines vs. system

As far as the reverse analysis is concerned, we started from the guidelines we chose, and then we pointed out the web page/pages which violated them.

Guideline	Violation page
1 - The items on the home page are clearly focused on users’ key tasks (“featuritis” has been avoided)	Homepage
11 - Navigation choices are ordered in the most logical or task-oriented manner (with the less important corporate information at the bottom)	Homepage Trova Psicologo Lo psicologo risponde Test
13 - All corporate information is grouped in one distinct area (e.g. "About Us")	Homepage
18 - The home page is professionally designed and	Homepage



will create a positive first impression	
19 - The design of the home page will encourage people to explore the site	Homepage
25 - Information is presented in a simple, natural and logical order	Homepage Articoli Test
57 - When a page presents a lot of information, the user can sort and filter the information	All pages
67 - Navigation choices are ordered in the most logical or task-oriented manner	Homepage Trova psicologo Lo psicologo risponde Articoli Test
75 - Good navigational feedback is provided (e.g. showing where you are in the site)	Test
78 - Terminology and conventions (such as link colours) are (approximately) consistent with general web usage	All pages
85 - Navigation-only pages (such as the home page) can be viewed without scrolling	Homepage Articoli Test
131 - Text is concise, with no needless instructions or welcome notes	Test
133 - Pages use bulleted and numbered lists in preference to narrative text	Sportello coronavirus Lo psicologo risponde Articoli
136 - Information is organised hierarchically, from the general to the specific, and the organisation is clear and logical	Homepage Trova psicologo Lo psicologo risponde Articoli Test
141 - Pages are quick to scan, with ample headings and sub-headings and short paragraphs	Sportello coronavirus Lo psicologo risponde Articoli Test
155 - On all pages, the most important information (such as frequently used topics, features and functions) is presented on the first screenful of information (“above the fold”)	Homepage Trova psicologo Lo psicologo risponde Articoli Test

172 - There is a good balance between information density and use of white space	Test
173 - The site is pleasant to look at	Homepage Test
178 - Colour is used to structure and group items on the page	Homepage Trova psicologo Sportello coronavirus Articoli Test
180 - Emboldening is used to emphasise important topic categories	Homepage Trova psicologo Articoli Test
183 - Meaningful labels, effective background colours and appropriate use of borders and white space help users identify a set of items as a discrete functional block	Test
184 - The colours work well together and complicated backgrounds are avoided	Homepage Trova psicologo Lo psicologo risponde Articoli Test
185 - Individual pages are free of clutter and irrelevant information	Test
211 - The FAQ or on-line help provides step-by-step instructions to help users carry out the most important tasks	The FAQs do not explain how to complete such tasks
212 - It is easy to get help in the right form and at the right time	Trova psicologo
216 - The site provides good feedback (e.g. progress indicators or messages) when needed (e.g. during checkout)	Trova psicologo Test
226 - The site provides immediate feedback on user input or actions	Test
231 - The site provides feedback (e.g. “Did you know?”) that helps the user learn how to use the site	Trova psicologo Test
232 - The site provides context sensitive help	Test
247 - It is easy to “undo” (or “cancel”) and “redo” actions	Trova psicologo Sportello coronavirus

	Test
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Finally, given that Userfocus made available a [spreadsheet](#) that one can download and use for their projects, we applied it to our project and assigned positive, negative, or null scores to the guidelines we took into consideration. The single scores that we assigned can be seen in our review checkpoint at [this page](#).

The final result of our analysis is the following:

	Raw score	# Questions	# Answers	Score
Home Page	2	20	14	57%
Task Orientation	11	44	19	79%
Navigation & IA	6	29	17	68%
Forms & Data Entry	5	23	8	81%
Trust & Credibility	5	13	8	81%
Writing & Content Quality	-1	23	11	45%
Page Layout & Visual Design	0	38	24	50%
Search	0	20	0	
Help, Feedback & Error Tolerance	-2	37	18	44%
<b>Overall score</b>		<b>247</b>	<b>119</b>	<b>63%</b>

The overall score is 63%, a percentage which clearly shows that there are many margins of improvement. However, only Task orientation, Forms & Data entry and Trust & Credibility got a good score. The remaining usability guidelines presented too many issues, resulting in a lower score.

## 2.2 User Testing

The user testing aims at understanding if the tasks of a system can be carried out correctly. Moreover, it helped us evaluate the overall user experience of the website (i.e. if the users like the website and enjoy using it). When a task could not be carried out, we identified the issues that prevented users from completing it and highlighting the weakest point that the analysis made clearer.

## 2.2.1 Definition of the testing protocol

### Testing method.

We decided to take the Guerrilla testing, as it is the cheapest and the fastest one. Nevertheless, this method and the users that did the tasks provided us with very useful feedback that have been fundamental for our final design proposal.

We used the method Thinking Aloud so we asked our users to say out loud what they were doing. We began each test giving instructions about the Thinking Aloud methodology and an overview of the tasks the participants were going to complete. The introductory script, either in English or Italian depending on the test subjects, was the following:

‘I am going to ask you to do a series of tasks on this website, while I record the time it takes for you to complete them. While you are in the process of doing a task, I ask that you tell me what you’re thinking at the exact moment, for example why you are performing a particular action, what you think your next action should be, if you have any doubts etc. You may ask questions, but I cannot answer. Remember that it is the website that we are testing, not yourself.’

We took three users that fit perfectly in our target users and asked them to complete the tasks we prepared.

### List of tasks

- Book an appointment with a psychologist
- Look for articles about other people with the same problem as them
- Searching information about their problem(example with stress)
- Searching different types of therapy(support groups vs personal therapy)
- Look for a psychologist who is expert on a specific disease (e.g. depression)
- Find self test about a specific problem
- Find the privacy policy for the management of data

### **User 1**

**Alessandro:** 24 years old, bachelor’s degree in Languages and Cultures for Tourism and

International Commerce, currently looking for a job. He is passionate about cars and travelling. He has a basic knowledge of the internet and technology.

### **User 2**

**Elena:** 25 years old, bachelor's degree in philosophy, she is completing her masters degree. Works as a librarian part time.

### **User 3**

**Loris:** 24 years old, works as a car seller. He is accustomed to using technology daily, both for professional reasons but also during his free time.

We provided our users with all the information they could have needed concerning our research and they agreed on being tested and, eventually, recorded.

After completing the tasks, our users had to fill in a questionnaire which helped us evaluate their experience with the website and the tasks they carried out.

### Description of expected results

The analysis that we carried out while exploring the website made us learn some of the major problems that we expected users to find, as well. One of the biggest problems that all of us stressed is that the website lacks consistency as far as text and images are concerned. Sometimes, the text which is written is simply redundant and excessive. Furthermore, the images that are used are often not appropriate to the context of reference. It can happen that, by looking at an image that the website creators chose, users think about something completely different, and not related to that image at all. Which makes a big problem, as images are supposed to communicate in a very fast manner any type of content. However, they have to be chosen appropriately. For these reasons we expect our users to stress the redundancy and lack of organization of the text and the inappropriateness of some images.

Another issue that our analysis highlighted concerns the color they chose for the text. Almost everything is written in gray font, which might be a nice design choice, but it does not improve usability at all. People who have vision problems might find reading difficult and, as a

consequence, they would leave the website after seeing it is not easily usable by them. Being it a problem that everyone could identify, we expect our users to point it out.

One more problem we noticed is in the distribution of information. The headings on the navigation and some titles are unclear on what exactly is the content of a specific section or page. That is why we expected some of our users to have issues locating specific contents.

We did not expect our users to find more specific problems, as they were found by us after carrying out a deep analysis based on violated usability guidelines.

### **2.2.2 Tests summary**

#### **User 1: Alessandro**

##### **Task 1 (3 minutes)**

Without exploring the homepage nor the website, the user goes straight to the point and clicks on “trovalo ora”. Only now he starts reading the page and thinks that there are too many things written; as a matter of fact, after having read the first lines, he skips to the last ones. Moreover, he points out that the color of the font makes it hard to read. He spends time looking at almost all the psychologists. He looks only at their pictures, without reading the biography or what they are specialized in. Interestingly enough, when he finds the psychologist that he is interested in, he does not click on “Richiedi consulenza”, but rather on the name of the psychologist. He thinks the CV is useless, so he does not download it. He correctly fills in the form and sends it. However, he finds it awkward that the menu concerned with the education writes “medie superiori” instead of just “superiori”.

**Task completed.**

##### **Task 2 (4 minutes)**

We pretended that he suffers from the OCD, obsessive-compulsive disorder to complete this task. He says that if he wanted to look for articles concerning the OCD, he would rather search for them on Google. He reads the navbar and points the pointer to “Articoli”. The drop-down menu opens. He does not realize that if he had clicked on “Articoli” he would have been taken to a page with all the articles, so he is focused only on the topics that the drop-down menu poposes. Since he is looking for articles regarding the OCD, he tries clicking on “Ansia, panico

e paure” thinking he will find articles there. He reads the titles of all the articles of this page, without finding anything related to the OCD. He thinks that maybe he could find what he is looking for by clicking on “Lo psicologo risponde”. He realizes articles are not there.

**Task not completed.**

**Task 3** (2 minutes)

He goes straight to “Articoli” and finds the macro-area he is interested in. He reads the titles of the first four articles and finds the one he wants to get information from. He likes the fact that, at the beginning of the page, there is the possibility to ask your question and says he would use it if he did not find the information he is interested in. Anyway, he says that he would make sure that the question can be asked anonymously.

**Task completed**

**Task 4** (4 minutes)

Interestingly enough, this is the first time that the user scrolls down the homepage, after having dealt with three tasks before. He thinks he would not find information about group therapy from the menu in the navbar. He reads almost all the titles that the homepage displays. He manages to find the group therapy at the bottom of the website, after having read the other options of the menu. He points out that it is not intuitive and he struggled to find it.

**Task completed with fatigue.**

**Task 5** (2 minutes)

He is looking for a psychologist specialized in depression. From the homepage, he clicks on “Trovalo ora”. The dropdown search menu displayed in the next page does not make clear what you would find if you use it. As a matter of fact, he understands the purpose of the menu only by clicking on it and opening the dropdown scrollbar (if you do not click on it, the default writing just says “tutti”). When he sees that he can look for a psychologist specialized in a particular issue from this menu he is satisfied and finds it very convenient. Then he discovers that he can look for a psychologist near where he lives (he did not get it beforehand because, as it has been already said, the default writing says “tutti” and it is not clear what it means). He finds the psychologist specialized in depression and located in Verona. He reads how much it costs. Only after reading the price, he reads her biography and starts the procedure to book the appointment.

**Task completed.**

**Task 6 (2 minutes)**

He is looking for tests about low self-esteem. He clicks on “Test” and finds the section devoted to self-esteem tests. He is curious and reads even the other possible tests he could do later. He really likes the site and how it is structured. When he clicks on the self-esteem tests, he is taken to a page with a lot of paragraphs written. He says there are too many things to read and reads only some of them. He is actually looking for the test, but does not find it right away. While reading he almost forgets he was looking for the test and spends time reading titles and commenting on them. After having scrolled down until the end of the page he finds the test. He finds it awkward that the test is just there, on the same page as the information as he read. He said he would have imagined to have seen the test on a separate page, reachable after clicking on some button.

**Task completed with minor slowdowns.**

**Task 7 (1 minute)**

He takes for granted that the privacy policy is at the bottom of the website. From the homepage, he scrolls down and finds it right away.

**Task completed.**

**User 2: Elena****Task 1 (02:50)**

From the homepage she clicked on “richiedi aiuto ad uno psicologo”. Then she started looking at the various options and stopped for a few seconds to consider prices, then she chose a psychologist and clicked on “richiedi una consulenza” (0.45 sec). She had no trouble at all completing the task or had any doubt in what to do. She read almost nothing on the page and went directly to search for a psychologist. She proceeded to pretend to fill in her personal info. (2.50 min). She had no trouble filling in her personal information but *she felt that 2 questions “Perchè ha preferito un servizio online ad un servizio dal vivo?” and “Come mai ha deciso di rivolgersi al servizio di psicologia online?” were basically asking the same thing and would be better suited to just one open question that doesn’t restrict the person to a prefilled option.*

**Task completed**



**Task 2 (01:04)**

I asked her to search for articles regarding problems in relationships, in particular about trust issues between partners.

She identified the menu item articles and hovered over it to see the options. She choose “problemi di coppia” and clicked on it. She scrolled on the page and pointed out 3 articles that were related to the topic. She completed this task without any problem and was quite sure of her choices.

**Task completed****Task 3 (01:46)**

She decided to check under articles and hovered over it. She selected “ansia, panico e paure” and searched under it. She found some articles that were about dealing with different types of stress but she felt like it wasn’t enough information. She looked on the menu again but couldn’t find another item in the menu that meant (to her) that she could find information about the issue at hand. She was pretty frustrated by this. *She said that she would have liked a clearer item on the menu regarding what specific issues are.* She looked around a bit more but said she was done and couldn’t find anything else after a while. (2.50). She never thought to look under the test part. She hovered over it but didn’t choose it because she didn’t feel that a test was related to what I had asked of her.

**Task halfway completed but abandoned****Task 4 (03:36)**

She started by looking under “trova uno psicologo” but upon starting to read the page she thought it wasn’t the right path so she stopped. She looked around the menu on top to search for other options and clicked on “trova uno psicologo” but *she already knew it was wrong* because she didn’t remember seeing anything related to that when she chose it for the first task. Then she thought that the best way to get clear information was to ask a new question in the articles section. She went and pretended to do that and declared she was done. She wasn’t convinced she had done the right thing but she *said she didn’t know how to find out in another way.*

**Task not completed**

**Task 5 (01:10)**

She selected the menu item “trova uno psicologo” and went to the menu search and opened the first “tutti” option. She found depression and then looked at the second “tutti” and said it was non relevant so she left it unselected and clicked on search. Then she selected the first psychologist on the result list. *She commented that “tutti” as a prefilled option was weird, especially since it was the prefilled option for both boxes. It was unclear which one she had to fill in before selecting it. After it was clearer but she would have preferred if they had said what the menu contained (like the place or the domain of interest).*

**Task completed****Task 6 (02:18)**

I asked her to search the self test about toxic relationships(second to last item on the menu list). She hovered over the test item in the menu and started reading all the options. She couldn't find the item on the menu (the menu is longer than the average “first screen” in computers and she didn't scroll on it so she didn't see it). So she clicked on “test” and went looking for it on the general test page. She couldn't find it (the page presents only 12 tests out of the 19 present on the website). So she clicked on the number 2 at the end of the page but still had no result. She scrolled to the end of the page and clicked on “test psicologici gratuiti” in the footer nav but it only brought her to another page with the tests, again with only some of the tests so she didn't find the right one. *In the end she told me there was no toxic relationship test. Also she found really annoying the “Hai bisogno di aiuto?Chiedi supporto ai nostri psicologi online” text in the page because she needed help and couldn't have it.*

**Task not completed****Task 7 (00:10)**

*She knew that the privacy policy is usually in the footer so she scrolled and clicked on it.*

N.B at this point she realised that the footer has a lot of information but she mentioned she doesn't ever look at it unless she is looking for something specific that she knows is there. She found it strange that information relevant for the everyday use would be stored there.

**Task completed**

### **User 3: Loris**

#### **Task 1 (01:51)**

He had no trouble finding the right item on the navbar, but clicked many times on it because of the long loading time, for which he complained. He clicked on Trova Psicologo and Richiedi. He selected a psychologist and started completing the form. He hesitated when he reached the final section, and wrote a brief sentence explaining his hypothetical issue.

#### **Task completed**

#### **Task 2 (00:12)**

He went to the Sportello Coronavirus first, but quickly understood he was in the wrong section. He placed the cursor over Articoli (he had already noticed there was a drop down menu) and clicked on Coronavirus.

#### **Task completed**

#### **Task 3 (00:38)**

He went to Articoli first, since he thought that's where information was provided. He searched briefly the items on the navbar by passing the cursor over them till he reached Test. He didn't expect to find information there, but tried clicking on the social anxiety disorder.

#### **Task completed**

#### **Task 4 (05:02)**

His first thought was to check the entire navbar. He clicked on Trova Psicologo and tried the search but quickly realised this wasn't the right way. He tried Articoli and started complaining that the site really needs a search. He commented that the search function is present in most sites, so the sites that lack one give a bad impression and seem amateurish. In the meantime, he tried all the items on the navbar. Discouraged, he asked if he could just abandon this task and move on to the next one, so I suggested that he try first to scroll down to the bottom of the page and check there. He tried Aggiornamenti and complained again that the loading time is too long. He scrolled and scanned the page for the required info but without success. He then read all the items at the bottom of the page, until he found the right one. He complained that no one would ever find anything if they put important things at the bottom, commenting that this part of the page usually contains things not many users are interested in, like the privacy policy.

#### **Task completed but with many issues and help**

**Task 5 (00:18)**

He clicked on Trova psicologo, headed to Search and selected Depressione from the search filters. He commented that it is positive that there are many ways to arrive at the most important parts of the site.

**Task completed**

**Task 6 (00:08)**

Having already gone through the navbar a couple of times, he immediately headed to Test and clicked on Disturbo bipolare. He commented that he had already noticed it.

**Task completed**

**Task 7 (00:02)**

He immediately scrolled to the bottom of the page and clicked on the correct item. He had already noticed the Privacy Policy but he commented that he would have headed to the bottom of the page anyway, since that is where they usually place it.

**Task completed**

**2.2.3 Analysis of subjective and objective data**

**Task-completion rate: 85%**

	<b>Task 1</b>	<b>Task 2</b>	<b>Task 3</b>	<b>Task 4</b>	<b>Task 5</b>	<b>Task 6</b>	<b>Task 7</b>
<b>User 1</b>	Completed	Not completed	Completed	Completed	Completed	Completed	Completed
<b>User 2</b>	Completed	Completed	Not completed	Not completed	Completed	Completed	Completed
<b>User 3</b>	Completed	Completed	Completed	Completed	Completed	Completed	Completed

**Error-free rate: 72%**

	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7
<b>User 1</b>	No errors	Critical errors	No errors	Non-critical errors	No errors	Non-critical errors	No errors
<b>User 2</b>	No errors	No errors	Critical errors	Non-critical errors	No errors	No errors	No errors
<b>User 3</b>	No errors	No errors	No errors	Non-critical errors	No errors	No errors	No errors

After the tasks, our users were provided with a SUS (System Usability Score) questionnaire that evaluated the SUS score, which is **71%**. In order to calculate the satisfaction metrics according to the data we got, we used the algorithm which says:

“For each positive question, we assign a score of (selected choice - 1); for each negative question, we assign a score of (5 - selected choice). We then sum the scores and get a value from 0 to 40. We multiply it by 2.5 and get a value between 0 and 100.”

[Here](#) the reference table with our users' results.

An example of the application of the formula, with user 1 is the following:

$$\begin{aligned} & (3-1) + (5-4) + (4-1) + (5-1) + (3-1) + (5-2) + (3-1) + (5-2) + (3-1) + (5-1) = \\ & 2+1+3+4+2+3+2+3+2+4 = \\ & 26 \\ & 26*2,5 = 60 \end{aligned}$$

Overall, as the task-completion and error-free tables show, users managed to complete most of the tasks. Nevertheless, they had slowdowns and they made errors in similar situations.

- All our users complained of the excessive amount of text that the pages present. This confirmed what we expected and proved that we will have to apply modifications in the

redesign. Moreover, all the users said that there's too much distracting information in general.

- All the users pointed out that the dropdown search menu displayed after clicking on “Trovalo ora” does not make clear what people would find if they used it. Indeed, they all managed to understand the purpose of the menu only by clicking on it and reading the items presented in the dropdown scrollbar (if you do not click on it, the default writing just says “tutti”)
- Every user made at least one minor mistake when doing the fourth task, the one concerned with finding a group therapy. Therefore, we will have to find a way to improve group therapy's visibility, as it is a well-known and useful psychological therapy, and many users might be willing to find it or get additional information on it.
- Every user took for granted that the privacy policy is usually in the footer, so they all went there to find it. This testified that our target users are well-prepared as far as websites' layout is concerned. Moreover, we understood that the footer is the ideal position for the privacy policy.

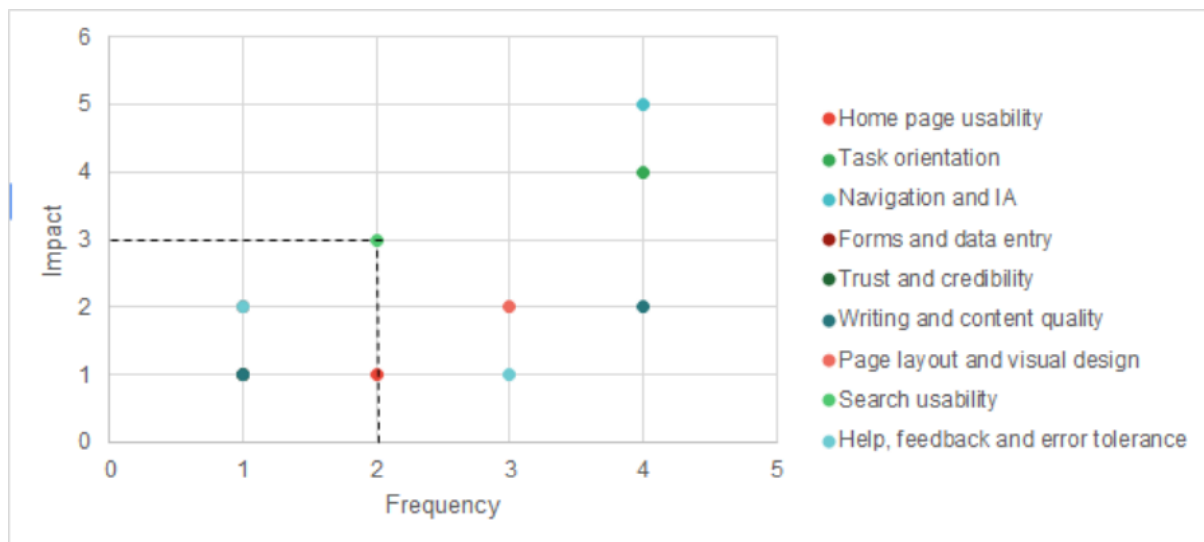
## 2.2.4 Urgency curve

The urgency curve is used to highlight the most important usability problems that have to be solved in the near future, distinguishing them from the less urgent problems that may be addressed in a later release. Taking into consideration the factors of frequency, i.e. the number of users affected by a specific issue, and impact, i.e. the level of severity of the issue. The impact can be measured on Nielsen's severity scale, which ranges from 0 to 4;

- 0 = I don't agree that this is a usability problem at all
- 1 = Cosmetic problem only: need not be fixed unless extra time is available on project
- 2 = Minor usability problem: fixing this should be given low priority
- 3 = Major usability problem: important to fix, so should be given high priority
- 4 = Usability catastrophe: imperative to fix this before product can be released

The usability problems were given a score according to the users' performance during the test. The table which summarizes the errors we identified can be seen [here](#). Regarding the two factors of impact and frequency that we are taking into consideration for the creation of the urgency curve, we set the initial maximum score of frequency as three (3), the same number of

our test subjects. The score used for impact was taken from Nielsen's scale, as mentioned above. We then devised a system in order to integrate our own score, as derived from our expert usability review of the site. As regards frequency, we considered ourselves as another user, therefore adding 1 to the already existing score of errors that came up both during the review and the user test. As far as impact is concerned, we took into consideration the average score given to the categories of errors provided by the Userfocus guidelines. More specifically, we added 2 to the already existing score when the relevant category was given -1, and 1 when the category was given 0. The urgency threshold was defined taking into consideration the results and aiming at their equal distribution below and above the urgency curve.



Overall, issues related to Help, navigation, task orientation and the home page appear to be in need of immediate intervention. Unclear menu options, misleading navigation, lack of correspondence between menu items and page items and the absence of the search function had an impact on all or most users and were identified as problems both during the user test and the usability review.

### **3. Feasibility study**

#### **3.1 Context of use**

Our users are young people of all genders, aged 18-29, who have at least a discrete knowledge of technology's everyday use. This is due to the online nature of the SIPO services, therefore, to fully use and benefit from this website, it is necessary that our users feel at ease with technology and aren't worried about completing tasks or numerous passages on an online platform. The survey we carried out, as part of our target users analysis, ensured that our target users were well skilled in the use of smartphones and computers and comfortable with digital technologies. Nevertheless, this implies that a good, private, internet connection is fundamental to access these services.

The place of residence of users is not relevant, as we are analyzing a service that can be carried out in its entirety online. However, it is important to mention that SIPO is an Italian service, and all psychologists involved in this project are Italian therefore this service is intended predominantly for Italian speaking individuals.

Users in our target domain can be at different stages of their life: some already have a steady job, while others are still studying or are unemployed. This difference doesn't necessarily preclude anyone in the age group from accessing the SIPO services but psychological consultation can be expensive or usually has to go on for quite some time before issues are completely dealt with. This is why only people in a situation of financial security, be it from parents allowances or personal jobs, were considered as target users.

Lastly, it cannot be denied that for many people there still is a stigma against needing psychological help. For a long time people have been reluctant or completely against seeking help from a therapist. The research carried out at the beginning of this project and with the survey demonstrated that users in our age group have mostly overcome this prejudice against psychology and would be willing, in case of need, to ask for this kind of help. The recent situation especially, with quarantines, lockdowns and a general fear of coronavirus increased anxiety and brought more than 50% of the interviewed users to research therapy or consider it. While the general consensus among interviewed people was that traditional, in person therapy seems more effective (55%), with the current situation in mind 75% of people declared



themselves willing to use an online therapy system, and the 25% considers this method practical and convenient.

### **3.2. Personas**

Six personas, with relative scenarios, were created to complete our analysis. In order to provide a complete view of the situation and of the possibilities of the system, three of those personas (Marco, Ettore and Francesca) are representations of our target audience, two of them (Marina and Sara) are personas that would benefit more from the system if it had some additional features and one of them (Silvestro) is a non-user persona.

Personas were created loosely following Cooper's process of creating a persona (2014). Taking into consideration the data we received through the interviews and the survey, we determined the basic components of our personas. The main activities of a user in our case are booking an appointment, taking the self-diagnosis test, seeking for information about their condition and the services SIPO. The opinions of our subjects mostly converged as regards the value of therapy, which was characterized as an effective way to solve problems, seek advice, and learn more about one's self. Despite their familiarity with technology and daily use of the Web, several interviewees reported to have reservations about the efficiency of online therapy, which some characterized as less than equal to the one of traditional therapy. Motivating factors were mostly related to the practical matter of convenience, as far as online therapy is concerned, and Covid-19 restrictions. When asked about reasons why they would seek therapy in general, their replies included solving problems and self-exploration. All subjects are young people, working or studying, with busy schedules and plans for the future. Some of them reported that they have considered seeking therapy, while others admitted that their mental health has been affected by the Covid-19 emergency.

### 3.2.1 Ettore Padovesi

## Ettore Padovesi



"A quotation that captures this user's personality."

**Age:** 22

**Work:** Student

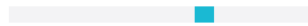
**Family:** Used to live with grandmother (84) and mother (60)

**Location:** Florence

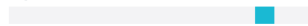
**Character:** Very loyal to his friends, very determined about his objectives

### Attitudes

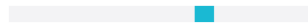
Open to therapy



Open to online



Equally efficient



### Goals

- Wants to feel free from anxiety due to COVID situation
- Wants someone to talk to about what he feels
- Wants someone to reassure him

### Frustrations

- He hates when a website is slow or not intuitive, as he is used to doing everything right away
- He does not like to talk about him a lot

### Bio

Ettore used to be a very lively guy during the school age, but when he started university he calmed down. Now, he wants everything to be well-organized. He really cares about his study and his friends. When he is doing something, he puts all of himself and gets very stressed when things do not go as he expected. He is very sincere with his family and friends, and he is always willing to help. Despite his interest in science, he does not like traveling or exploring the world, as he can see and learn everything he wants on internet. Ettore is passionate about science, cars and music. He always likes to discover something new, therefore when one of his friends introduces anything to him, he wants to know it in depth.

Every day, Ettore goes to class. He lives in a university city and shares a house with 3 other students. Usually, he gets up late because he likes being awake at night, and is often late at class. Nevertheless, he sits on the front to take part in the class better. Usually, he asks questions or says his opinion. His classes are taught only for the morning, therefore he has every afternoon free. Most of the times, he stays outside with his classmates and likes to get to know new people who, sometimes, take part in the group. Anyway, when an exam gets close, he does not stay outside too much and goes home to study. He does not usually study for the night because he does not like it: either he watches a movie, or he goes out with his friends. The outbreak of COVID-19 pandemic dramatically changes his routine and his character.

### Motivation

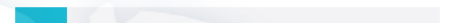
Get help soon



Convenience: everyone has to stay at home



Busy time schedule



Talk to a professional



Spare money



### Preferred Devices

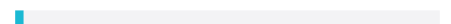
Computer



Smartphone



Tablet



### 3.2.2 Marco Ricci

## Marco Ricci



"Hard work has always paid off - no reason to stop now"

**Age:** 27

**Work:** Designer

**Location:** Modena

**Character:** Ambitious, sociable, hard-working

### Attitudes



### Goals

- Wants to feel better and enjoy life again
- Wants to get help from a psychologist

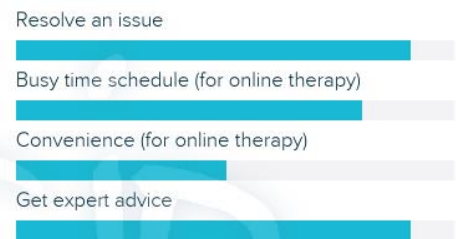
### Frustrations

- Has a busy schedule and has no time for therapy
- Has reservations about online therapy, which would have been a convenient option for him

### Bio

Marco is 27 years old and lives in Modena, Italy. After graduating from the University of Bologna, he started working at a small software engineering company as a designer. He loves his job, he has good friends and enjoys spending time with them, he found a great apartment at the centre of the city - he has a great life. Yet, lately it just doesn't feel like it. He feels tired and demotivated all the time and he would like to speak to an expert about it, but his schedule doesn't allow regular visits to a psychologist's office.

### Motivation



### Preferred Devices



### 3.2.3 Francesca Corradini

## Francesca Corradini



"Wishing is not enough. We must do."

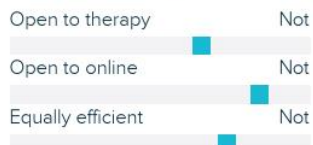
**Age:** 27

**Work:** Data monitoring manager

**Location:** Reggio Emilia

**Character:** Optimist, Determined

### Personality



### Goals

- Wants to find specific information
- Wants help her friend

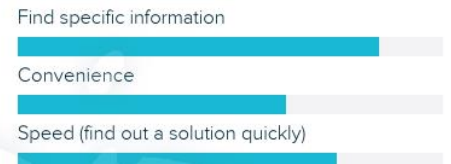
### Frustrations

- Has no knowledge about therapy and psychology
- Wants to avoid general information
- Lack of time and resources

### Bio

Francesca is 27 years old. She has a master's degree in economic from the University of Modena and has just started to work at a small firm in Reggio Emilia. She is a problem solver and likes to challenge herself to improve in her work. She is not a very sociable person but she is very loyal to her friends and family. Currently her new work is very demanding so she has dedicated less time to her social life. Upon reconnecting with one of her friends she notices some differences in her friend's behaviour. Upon discussing this with him she learns he is suffering from depression. Francesca would like to help him but she doesn't know much about this issue and doesn't know how to help someone in his situation.

### Motivation



### Preferred Channels



### 3.2.4 Sara Lasagni

## Sara Lasagni



"I don't say much but I listen a lot."

**Age:** 21

**Work:** Student, part time shop assistant

**Location:** Milano

**Character:** Shy, introverted, cheerful

### Personality



### Goals

- Wants to overcome her problem
- Wants professional help

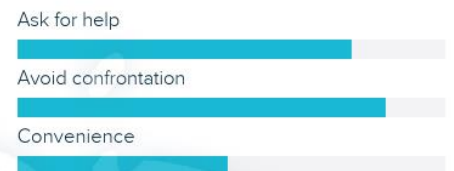
### Frustrations

- Has no knowledge about therapy
- Doesn't feel comfortable talking to strangers

### Bio

Sara is 21 years old. She is a cheerful person but has always been very shy. As a result she has had trouble making friends while growing up. She is completing a degree in veterinary medicine at the University of Milano, and works as a part time shop assistant in a dress shop. She likes her job but she is afraid she might get fired because she has trouble addressing clients. She always waits for them to ask for help instead of speaking to them first when they enter the shop. She knows that there are psychologists and other specialists that can help people in her situation being more outgoing, but she fears she might not be able to speak openly to a stranger and would need a long time to open up. She wishes there was a more impersonal way of communicating with an expert as to feel less exposed.

### Motivation



### Preferred Channels





### 3.2.5 Marina Rinaldi

## Marina Rinaldi



"If I have a moment to spare, I spend it on improving myself."

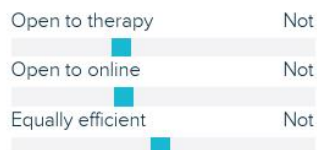
**Age:** 23

**Work:** Intern

**Location:** Milano

**Character:** Ambitious, competitive, pragmatic

### Personality



### Goals

- Wants to talk to a psychologist about the stress she's experiencing
- Wants to deal with her stress so she can perform better at work

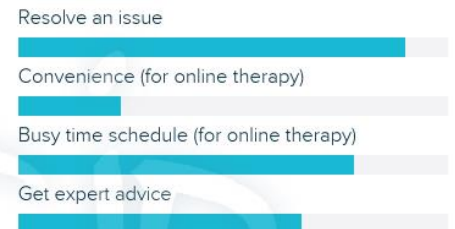
### Frustrations

- Has a busy schedule and no time for therapy
- Has no time or patience to figure out how to start online therapy

### Bio

Marina is 23 years old and lives in Milano. After graduating from the University of Milano, Marina started her internship at the marketing department of a high-profile company. This is her first job and she is really nervous about it. She wants to make a good impression on her superiors, so she works really hard every day. Lately, she's been having sleeping problems and she realised she might need to do something about her stress. She has a very busy schedule and has no time to research her options. She needs a solution and she needs it now.

### Motivation

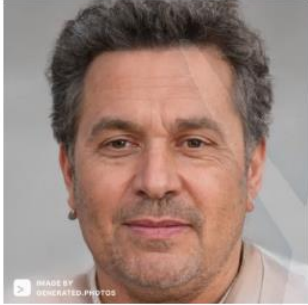


### Preferred Devices



### 3.2.6 Silvestro Trentini

## User Persona Type



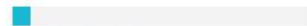
**Age:** 58  
**Work:** Farmer  
**Family:** Married, no kids  
**Location:** Naturno  
**Character:** Very simple and loyal man

### Personality

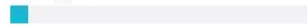
Open to therapy



Open to online



Equally efficient



### Goals

- Growing his animals and fields.
- Discovering new roads of his loved woods
- Building a new fence.

### Frustrations

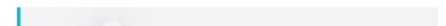
- Bad weather can destroy the work he made.
- The screwdriver which does not work as it is supposed to.

### Bio

Silvestro is a 58-years-old farmer who lives in a tiny village in the North of Italy. The village where he has been living his entire life counts only some hundreds of inhabitants, and the closest city, Bolzano, is 40 kilometers away. Not many foreigners are around the village, and everyone knows each other. The population is made mostly by older people who got fond of their village and decided not to leave it. Young people moved to big cities. During his everyday routine, Silvestro spends a lot of time taking care of his animals. He is married with a 55-years-old woman and the couple has no children. When he does not work, he meets his friends at the pub of the village. He does have a TV, but he does not have a smartphone. He gets informed about the world situation from the TV and the newspapers, as he does not have internet, nor a PC. He knows about COVID and is actually worried about it. As a matter of fact, he always wears a face mask, and encourages his friends to do the same. Nevertheless, he does not feel the quarantine as a burden: after all, thanks to his animals, he has to spend a lot of time outdoors. The only thing that changed, to him, is that he cannot see his friends anymore, but it is not such a big problem. The things they say are always the same, as nothing changes in that tiny village. Silvestro does not have the internet, so he does not know that people can have online therapy, if needed. Moreover, he just does not need it, he feels safe in his village with his animals and is happy living his ordinary life.

### Motivation

Incentive

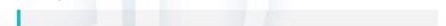


Indifference towards technology



### Preferred Devices

Computer



Smartphone



Tablet



### 3.3 Scenarios

#### 3.3.1 First scenario: Ettore is worried about Covid-19 outbreak

The coronavirus pandemic started some weeks ago. No one is understanding what is really going on. Schools closed, universities closed, shops closed. Ettore is in his room reading a reliable online newspaper to get informed about the situation. He knows that he will have to spend a lot of time far from his hometown and his family. As a matter of fact, regions closed the borders and he is stuck there. At least, one of his roommates is experiencing the same situation, otherwise he would be alone in the apartment. At the beginning, Ettore was not excessively bothered about the situation: he had to study and he thought that until he has the internet he has also had everything he needs to survive. Ettore has always thought of himself as a very stable person and never took into consideration the idea of talking to a psychologist. Nevertheless, the COVID situation is worrying him. Both his mother and his grandmother are not as young as they used to be and, being Ettore a student of biotechnology, he knows very well how viruses can spread. Moreover, after the first weeks at home, he starts to feel very lonely, despite his roommate living with him. The quarantine is being a very tough period. It is spring, but he does not have a garden in the apartment where he is stuck, so he cannot even enjoy the sun: no one can leave their home, the motto is “stay at home”. Every day resembles the preceding one: Ettore wakes up, has breakfast and then spends hours in front of his PC, studying, reading or playing just to pass his time. He calls his family every day, as he is very worried about their health. He realizes something is wrong with him. He is very anxious, and spends too much time worrying about everything: he does not know what to do, he is very afraid even when he goes to the supermarket. He used to live a very social life, but now everything seems disappeared. At home, he realizes that his usual behaviors are beginning to become very repetitive, he is entering a routine he always tried to avoid since he was used to going to class and talking to people, something which he misses very much. He can stay in contact with his friends thanks to the internet, which is always working, but that is not enough for Ettore. While reading news, blog posts and people’s thoughts on social networks, he realizes he is not the only one feeling this way. He learns that a lot of people are starting to talk to a psychologist, and psychologists are beginning to be specialized on people’s crises due to coronavirus. As everything is online now, Ettore really thinks he needs help. He types on



Google “psicologo online”. After some ads, which he always avoids, he finds the SIPO website. He clicks on it. He sees that it deals with coronavirus as well so he starts browsing the psychologists who deal with coronavirus-related problems: it is time to stop feeling anxious. If people want to go back to normality, he has to do his part, which starts from taking care of himself.

### **3.3.2 Second scenario: Marco faces a mental health issue**

Dragging his feet, Marco entered his small apartment feeling the weight of another long day on his shoulders. He took off his shoes and lay on the bed, staring at the ceiling. He had everything he ever wanted -a designer job at a small software engineering company with a good salary, good friends, a pretty apartment at the city centre. Yet lately, his favorite time of the day was when he returned home so he could lie on the bed.

He didn't remember the last time he felt good about anything. He knew it wasn't normal not replying to his friends' messages and avoiding to go out unless it was necessary. He just didn't have the energy to do any of the things he used to love. Some friends noticed his strange behavior and tried to reach out to him, but it wasn't what he needed. He wasn't sure what he needed -he just wanted to rest. Someone suggested therapy and he toyed with the idea, but he didn't have the time for it.

He grabbed his phone from the bedside table and googled his symptoms. The SIPO site came up as one of the results and he clicked on it. Online therapy? He never heard of it before. He read the information on the homepage sceptical and scanned the page. He read on some disorders that sounded relevant before he opened the part about depression. He went through the description and felt his stomach twist. He recognised many of the symptoms from the list. He reached the end of the page and anxiously completed the self-diagnosis test. He knew what the results would be. So what now?

Marco browsed the available psychologists and searched for one expert in depression. He picked one from the list of results and quickly filled the form, but hesitated before sending it. Was he really ready to start therapy? And online on top of everything? What if these people were scammers? Even if they were real professionals, there was no guarantee that they could help him without even being in the same room as him.

Still, he needed help. He searched for information about the organisation behind the site and the quality of their services and read the CV of the psychologist he chose. They seemed legitimate. It was now or never: he headed back to the form, filled it again and sent it. He took a deep breath and felt an enormous amount of relief.

### **3.3.3. Third scenario: Francesca's friend faces a mental health issue**

Francesca entered her car, put on the seatbelt and stopped to look at her hands. She wondered why she hadn't noticed it before. She had been so focused on her new job that she hadn't even had the time to think about her friends. And, while she had been worried about completing assignments and impressing her new boss, her friend Marco had been suffering alone. They had met for lunch, after almost two months without seeing each other, and after a lot of prodding on her part because he seemed a bit apathetic he came clean about his depression. She starts the car and drives home on autopilot, her mind fixed on Marco and his situation. All she knows from depression comes from tv shows and movies and she feels completely out of her depth. She knows that if depression is left untreated it can lead to terrible repercussions and she starts to feel really afraid. She knows she wants to help him but she has no idea how. First of all she needs to know exactly what he is dealing with, then she will need to understand how to help him. With this plan in mind she parks her car and goes inside her apartment. She opens her laptop and starts looking for info. Website after website and blog after blog she learns more and more about depression but nothing that relates to her situation. While looking online she finds SIPO, a website offering online counselling on several mental issues. She starts browsing between their articles, rich with information about depression and its many forms and symptoms. It's now more clear to her what Marco is going through, but she still doesn't know how to be there for him. Then she sees that some people have made personal queries about their situations, and they have received dedicated answers by different specialists. She perks up and starts to browse again. She can't find a question that can relate directly to her situation so she decides to ask a question herself explaining the situation and her worries about her capability to offer support in the right way. After she feels a bit of relief, she might be able to do something for him, after all.

### **3.3.4 Fourth scenario: Sara faces a mental health issue but is too shy to speak to someone about it**

Sara turned the key in the lock and closed the shop door. Another day of work was over and she felt terrible. While walking home she thought about her day. Classes in the morning hadn't been that hard but work had really drained her. Her mind kept wandering back to her behaviour. She knows she is shy, she has been for all her life after all, but with this job it has started to become a real problem. She knows that addressing clients, asking if they need help and making suggestions is part of her job, but she really doesn't like to make the first move. Whenever new clients walk into the shop she always hopes they will come to help and ask for something so she won't have to make the first move. If they just start to look around she spends the entire time questioning whether she should ask if they need help or if she would be bothering them. She keeps on fretting and then is so nervous that she sometimes fumbles on her words when she decides she is gonna speak first. She thinks her boss likes her well enough but lately she has been telling Sara to be more outgoing. Maybe she is getting tired of always having to push her toward customers. It's not like Sara hasn't tried to get over her shyness before but nothing ever seems to work for her. Sara reaches her house and goes inside, finds her computer and turns it on. Maybe online she can find some advice or some techniques on how to overcome this issue. She sees many posts about people in a similar situation to her and she feels a bit better. If so many people struggle with this, maybe it is not completely her fault she cannot overcome this on her own. She sees that many people suggest seeing a therapist and she knows immediately she cannot do that, she would never be able to open up to a stranger. While looking for a different solution she stumbles on the SIPO website, offering online consulting. She is intrigued but she is concerned that receiving help through a video call would be too impersonal to allow her to speak her mind completely and with ease.

### **3.3.5 Fifth scenario: Marina's anxiety reaches the breaking point**

Marina woke up in the middle of the night panting. She felt like she was still in that dream, the one she kept having the past few weeks. In the dream, she had a meeting to attend but the elevators were out of order. She would take the stairs, but they were endless and she couldn't reach her floor. While going up the twirling stairs, her boss would yell at her through the

speakers. She always woke up at this point, the echo of her boss's angry voice still ringing in her ears. And then the headache would kick in.

Sighing, Marina got up and headed to the shower. What was wrong with her? She had to keep it together. This was no time for a breakdown. She had just started her internship at the marketing department of a big company and she wanted to make a good impression. Fresh out of university, this was Marina's first job. She couldn't afford to mess things up.

She got out of the shower and headed back to bed, hoping to get some sleep. After much twisting and turning, she gave up when the first light of the day reached her window. She checked her phone, but she didn't feel like going through social media. She needed some sleep -she couldn't remember the last time she slept more than 3-4 hours. She could handle the stress, the constant rushing, her busy schedule, the demands of her job -or so she thought at least. Clearly, though, her body couldn't keep up. She needed to deal with her stress, if she wanted to keep working at her full potential.

She searched for therapists on Google and entered the SIPO site. She noticed that she could book an appointment, but she wanted to read about their services first. What did the sessions involve? Where were the instructions on how to book an appointment? She scanned the site in a hurry, clicking on some sections that seemed promising. What happens after she fills the form? She gave up after a few seconds. She didn't have time for this. She got up feeling frustrated and started getting ready for work. She grabbed a cup of coffee and got out of the apartment, exchanging a quick greeting with her roommates. The weather was warm and the sun was shining, but all she could think about was the morning traffic.

## **4. Design proposal**

### **4.0 Adoption of a design model**

For the purposes of proposing a new design for the site of SIPO, the CAO=S model was adopted. The model is based on the analysis of Concepts (i.e. information types), which are manipulated by Actors (i.e. user types) performing Operations (i.e. commands). The result of this analysis is the generation of Structures, which are of three types: views, data structures and navigation. The CAO=S model focuses on the relevant to the design aspects of the target users, like their competences, and is structured around the analysis of the aforementioned components, which leads to the automatic generation of interface patterns.

### **4.1 Information architecture**

Several issues were encountered with the site's information architecture, ranging from broken links to counter-intuitive hierarchies. Taking into consideration these errors and avoiding their repetition, we adopted a top-down approach in our effort to propose a new information architecture. This approach involves creating an overview of the system and gradually refining its components. The content of the SIPO site can be divided into two categories: the content meant for the general public, and the one addressed to professionals. We propose the reordering of information, in order to make this distinction clear. Therefore, we group the information meant for professionals under two sections titled 'Per gli psicologi' and 'Per le aziende', which are placed on the top of the page and the footer, separated from the main navigation and the rest of the content.

Apart from the information addressed to professionals, the top menu includes two additions we deemed necessary: a help section and a search function. On the top right corner we added the link to a user's profile, a feature we suggest in this proposal. Overall the top menu contains the following elements:

- Per gli psicologi: information on how to become a psychologist of SIPO and career opportunities

- Per le aziende: information about collaboration opportunities between SIPO and companies
- Help: information on practical issues for those interested in the services offered by SIPO, like instructions about how to book an appointment; it also includes the possibility for users to send a message in case they were not helped by the information provided in this section
- Search function: search by keyword, leading to advanced search that allows users to narrow down the scope of their search
- Il mio profilo: contains personal information about the user, depending on what said user decided to share; also includes the calendar with the journal entries and articles that have been added to the user's Favorites.

The new main navbar includes most of the elements present in the current design of the site. A proposed change is the separation of the information on mental health issues from the self-diagnosis test section. The new test page includes basic information about the respective disorder at the top of the page and a link to the Information page for those interested in reading more about it. The latter contains information on disorders, previously included in the Test section.

- Trova psicologo
- Lo psicologo risponde
- Sportello coronavirus
- Articoli: the proposed design includes the list of topics at the beginning of the page
- Test
- Info sui disturbi

The homepage was stripped from the abundance of elements noticed in the previous design. The proposed design includes only the necessary elements and reduces the scrolling needed to get to the bottom of the page. Only the most important section of the site are referenced here, namely:

- Trova psicologo - Sportello coronavirus - Lo psicologo risponde (in a carousel at the top of the page)
- Cos'è il SIPO: a new section we propose with information about the organization
- Articoli
- Test
- Info sui disturbi

The footer is reorganized following the same line of thought as the top menu: the information is clustered under a category dedicated to psychologists, one addressing the general public and one related to the organization behind SIPO. The structure is as follows:

1. Per gli psicologi
  - Diventa psicologo SIPO
  - Formazione e profilo
  - Domande frequenti
2. Servizi per tutti
  - Crea il tuo profilo
  - Domande frequenti
  - Trova psicologo
  - Sondaggio: a section of our creation, containing the survey questions previously included in the form for booking an appointment
  - Privacy policy
3. SIPO
  - Chi siamo: a new section we propose with information about SIPO and a quality assurance of the services provided by the organization.
  - Contatti: a section we propose for the users interested in contacting SIPO or finding their pages on social media.
  - Rassegna stampa
  - Rapporti SIPO
  - Dicono di noi

It is also worth mentioning that the logo of SIPO is visible on all pages, so that the users may return to the homepage at all times. The same holds true for the upper menu, the main navbar and the footer.

## **4.2 The CAO=S model**

### **a. Concepts**

Concepts refer to the way the users perceive the information types present in a system. They are associated with data, generated and observed by someone. The concepts are represented

with a noun or adjective and are not to be confused with operations. In our case the following were identified as concepts:

- Information: written text regarding mental health issues or the services offered by SIPO
- Appointment: meeting with a selected therapist
- Psychologist: expert who is part of SIPO
- Topics: thematic categories of articles on mental health
- Types of therapy: methods of conducting the sessions; traditional, online, chat, group
- Search Results: list of content related to a specific query made by the user
- Test Results: written text presenting the result of the self-diagnosis test and providing the user with advice
- Price: the fee required to follow therapy sessions, online or traditional
- Question: user's inquiry either on mental health (Lo psicologo risponde) or practical matters not covered in the Help section
- Personal account: the user's profile containing personal information the user wants to share and the journal
- Calendar: marks important events during a day and the days the user submitted a journal entry
- Journal: list of user's entries resembling a diary; visible only by the user and their therapist
- Journal entry: written text created by the user and containing descriptions of their personal experiences

Issues may arise when data structures and concepts are not aligned, resulting in lexical or conceptual ambiguity. No such problems were identified in the site.

#### b. Actors

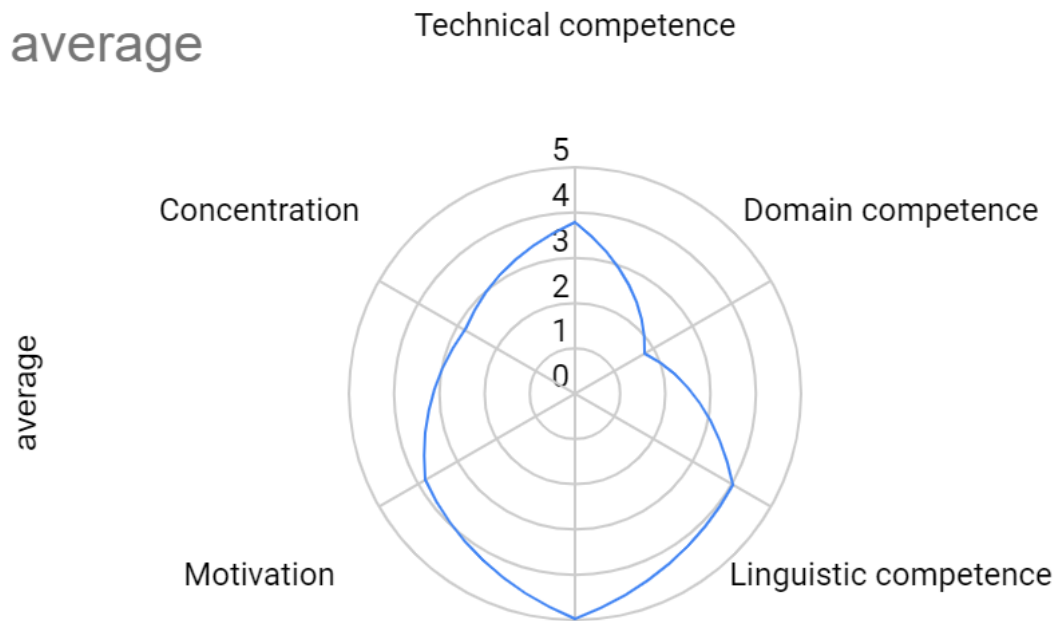
Actors are stakeholders who influence the design and in this model are characterized by six features relevant to the product:

- Technical competence: describes the proficiency of users in using technology and their usage of devices
- Domain competence: includes the degree to which an actor is familiar with the domain of interest
- Language competence: the level of language proficiency of the actor as regards the natural language of the system



- Physical ability: includes a description of physical limitations or conditions affecting the actor's ability to use the technology of interest
- Motivation: describes the motivating factors affecting an actor's decision to use said product (instead of another)
- Concentration: anticipates the possibility that a user might get distracted while performing a task on the proposed technology.

Using these features we characterized the personas we created in Part 3 and represented the results with the C&A diagram. The characterization of each actor can be found [here](#).



### c. Operations

In the CAO=S model, there are four types of operations that can be performed on concepts: create, view, update and remove. Creation refers to the generation of one or more instances of a concept. In our case, the operation of creation is manual, assisted by default values in data entry fields wherever possible and allows one instance generated at a time. Instances of concepts that persist after the end of the operation are the journal entries and the account. In general, the only case where the system displays previously submitted values are in the booking procedure, where data that the user has already entered for the purposes of creating a profile are repeated. A failure notification is available in the case of the form that users need to complete in order to book an appointment.

The operation of view concerns the mode of display of the concepts and has three types: full individual reduced and multiple. In our case, full and multiple views were used, the latter mostly employed to facilitate reading instructions or symptoms of disorders. As regards the display of the query results, they are paginated and divided by content, while in the case of no results, the system suggests results of related queries.

The update operation refers to changes in the instances of an entity and are categorized as global and specific updates. Users may update the results of their queries using filters, the information they share on their profile and the journal entries they have submitted. The operation of removal refers to removing one or more instances from the system. The users can delete their account and a journal entry.

#### d. Structures

The Structures are generated after the analysis of the other three components of CAO=S. They are presented in a table that brings together Structures, Actors, Concepts and Operations.

users	information	appointments	psychologist	topics
creation	/	creation of a form with insertion of personal data  Type: Manual creation; Default values in every box; No multiplicity and no persistence; Failure notification available.	/	/
view	view of information related to the site and mental health issue	/	view the list of psychologists and their profile and CV	View as drop down and as a list
update	/	/	/	/
remove	/	/	/	/

users	search result	test result	personal account	calendar
creation	/	/	creation of a personal account with personal information	/
view	View of search results according to specific queries	View the test result after the completion of the self test	view your personal account	view your calendar, with your appointments dates and your journal entries
update	update your search with filters	/	update your information	/
remove	/	/	delete your account	/

users	Journal	journal entry	question	price
creation	/	Create a new entry	creation of question in relation to a personal issue  Type: manual creation; No multiplicity; Persistence (visualization of answers);	/
view	view your journal	view your entry	View the list of other users questions	View prices in the list of psychologists and as an additional search filter to look for a psychologist
update	/	update an already existing entry	/	/
remove	/	delete an entry	/	/

### 4.3 Interaction design

The interface is the place where the interaction between two systems occurs. Therefore, this implies the interaction, in the form of dialogue, occurs between the human and the computer. In any interactive system a user achieves a goal within an application domain. Tasks are operations to manipulate the domain concepts, and the goal is the desired result of these manipulations. The dialogue is obtained through the sequence of inputs and outputs.

In the interaction, the two members, namely the user and the computer, participate in dialogue by using their own language, and the aim of the design is to find a proper translation between these two different languages.

#### Dialogue design

The dialogue that we wanted to sustain in the redesign of SIPO website is mainly based on **menu and navigation**. However, since the screen cannot physically host all the commands, in several cases we applied organizational mechanisms to hide some commands and show others (i.e. hierarchical menus). Some tasks are organized according to the **Question/Answer** interaction style, which is useful when the tasks are very easy and the user is led step by step through them. In our case, the user can be allowed to modify the sequence of steps (for example, he/she can go back and modify an answer he/she gave to the self-diagnosis test). As far as the **form-fill** interaction style is concerned, we applied it in the section where the users have to fill in a form with their personal data. Each input field was positioned in the center of the page, and users can switch from one field to another through clicks, tabs or other mechanisms. We also included **natural language** through a search box which allows users to filter all the contents of the website. Finally, a very important role is played by **direct manipulation**: almost all the tasks can be completed by scrolling the web pages, as concepts of interaction are visually represented through text and images. Users can integrate their choices of control with the help of pointing mechanisms, which are guided through visual representations. Even buttons played a very important role, guiding users in the achievement of their goals.

## Screen design

The primary output of the interaction is, in our case, the screen. While designing, we kept in mind the platinum rule stating that we should **minimize the cognitive load of interactions**.

We did it as far as the three kinds of memory are concerned:

- **Sensory memory:** the appearance of the elements we have chosen is very simple and their position is stable and consistent throughout the whole website. However, the steps to carry out tasks do not include many elements, in order to reduce users' cognitive load.
- **Short-term memory:** all the tasks can be carried out in a reduced number of steps, in order to help users remember what they did in the preceding step. Moreover, as far as the test page is concerned, users can easily go back and give a different answer, in case they forgot what they declared beforehand.
- **Long-term memory:** this kind of memory is not explicitly required in our design approach. However, the fact that users can read the psychologists' CV and biography can be helpful to help their long-term memorability, as even a biography represents a narrative approach which, in our case, is a key part of users' tasks: as a matter of fact, it is likely that a user chooses a specific psychologists because he/she was impressed by their biography.

Our design approach was based upon the **8 golden rules of dialogue**, having a strong importance when completing the tasks:

- **Consistency:** we kept an internal consistency in the website overall. As a matter of fact, the colors specifying a feature will always be the same and, more importantly, the layout of the pages is consistent throughout all of them. The consistency is reflected even as far as the external side is concerned, as we relied on common knowledge concerning the websites overall. For example, the SIPO logo is placed in the upper-left part of the website, and it also functions as a link to the main homepage, as it happens in every website. Moreover, the footer is placed in the bottom of each page and the menus were created following a consistent and shared layout.
- **Information feedback:** when users are completing a task, they are informed at all times about their progress. For example, a progress bar in the test section allows users to understand how many answers are left when checking the test's questions. Moreover, when users complete a task, such as booking an appointment with a

psychologist or asking a question, a pop-up window will appear telling them that the question was correctly submitted.

- **Closure:** when completing tasks, users can easily understand if they are at the beginning, the middle or the end of the task thanks to the feedback we provide. Users' satisfaction is improved by windows thanking them and telling them what they did.
- **Simple error management strategies:** after analyzing the errors that users made while doing the tasks on the main website, we applied strategies to minimize these errors and improve the website's usability. To begin with, since our users highlighted that in the homepage there is an excessive and redundant amount of information that might distract them from the main tasks, we drastically reduced the content to its necessary components. Some items of the menu have been rewritten in order to avoid misunderstanding, and some new features were added. Moreover, even the number of steps to complete a task has been reduced, and the major part of the information can be seen in the same page, without making the user browse too many web pages. The fact that the menus are always present allows users to easily go back to a main page if they understand that what they are doing is wrong.
- **Reversibility to actions:** users can easily redo an action that they did not like. For example, a button "domanda precedente" allows them to go back and change their answer when doing a test.
- **Shortcuts for expert users:** the website's structure is very simple, and the number of steps to complete a task has been reduced and there cannot be further reductions without compromising the content. However, users can get the same information in different ways, as we kept in mind that different users might need different paths. The advanced search function is reserved to expert users who might be willing to know everything the website can offer about a particular topic.
- **User's sense of control:** arbitrary sequences in commands have been avoided and users are always in control of their actions. Even when a pop-up window appears, it happened because the user completed a task, therefore we can assume they are well-prepared for that kind of feedback.
- **Reduce short-term memory load:** unnecessary contents have been avoided so that users do not have to store irrelevant information.

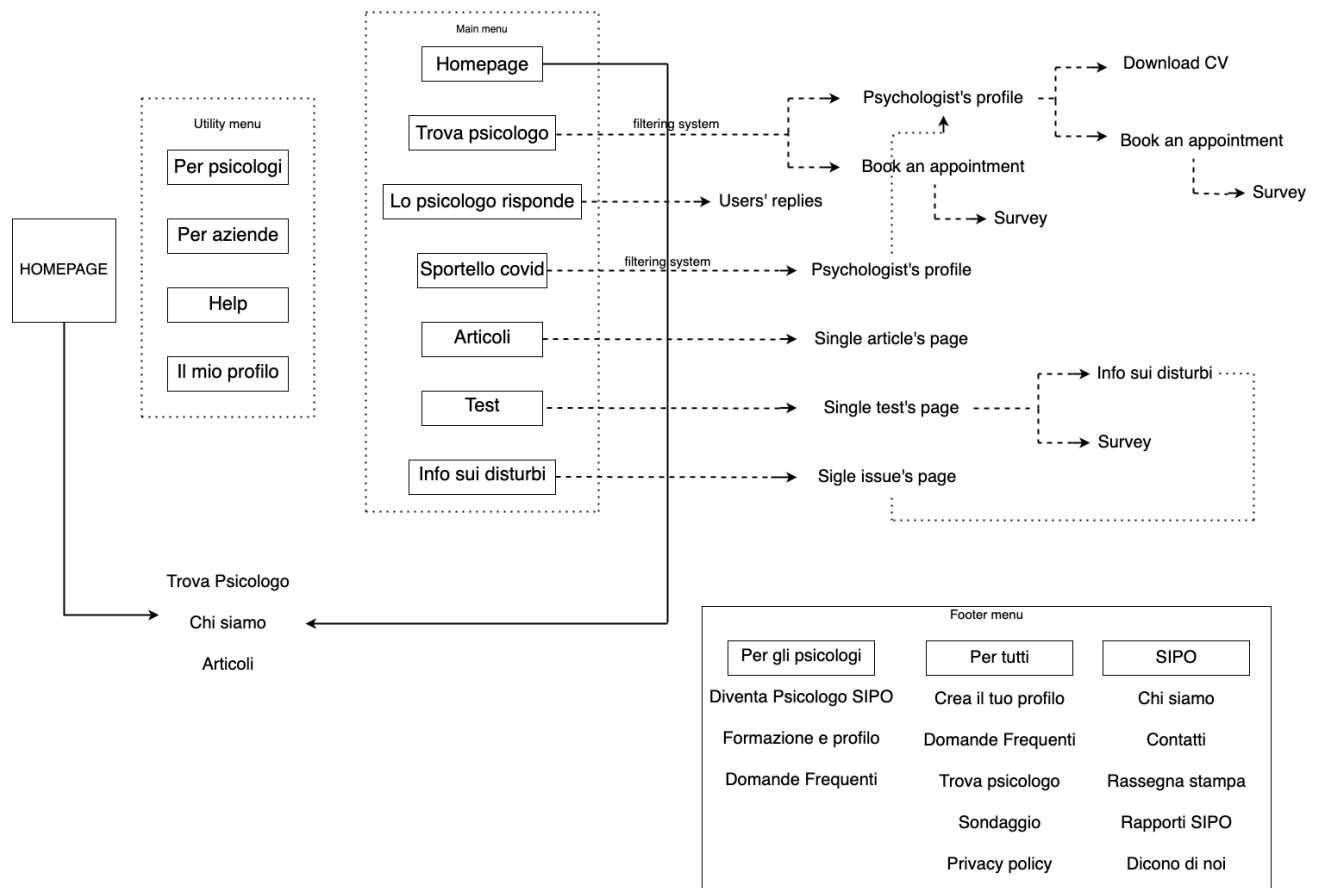
Moreover, our design approach was based on the **5 rules of data display**, since the website presents a lot of didactic information:

- **Consistency of the display:** the terminology that we used for the main functions is aligned with the one used in the SIPO website, especially because when a scientific topic is mentioned the terminology must be consistent.
- **Efficient assimilation of information:** we reduced the unnecessary information when we noticed that the text was too much and redundant. We kept an informal language with the users, using the “tu” to address them. Moreover, the information which is presented is consistent with the task: for example, if a user is about to do the ADHD test, he/she can also read more information about the ADHD.
- **Minimize memory load:** completing a task requires few actions and few context changes.
- **Display and insertion consistency:** the format for the data that users insert is similar to the format they can view in the website overall.
- **Flexibility and display control:** the information that users need to complete a task is easily retrievable in the page they are viewing, thanks to the button that tells them what to do.

Finally, the navbar is designed in order to give users the opportunity to go to any section they want starting from any page they are in. This feature allows a non linear navigation, which might be necessary in some cases. Obviously, we took into consideration the fact that our target user is widely aware of how to use a navbar.

#### **4.4 Structure blueprint**

We used a hierarchical model, which is very common in the websites and is pretty known by all users. This allowed us to create a very linear structure that allows people to carry out tasks in the fastest and easiest manner. Even buttons, thanks to the arrows > and < permit a better understanding of the structure underneath. The blueprint that we prepared and followed in the redesign of the website is the following:



## 4.5 Wireframes

Following the blueprint we prepared, we created 36 wireframes explaining our redesign of the website. In order to do so, we used Balsamiq, a software to create and manage wireframes. The result of the prototype is an interactive PDF document and is helpful to show the main features that we propose, explaining how we solved the major problems that we found by analyzing SIPO website. This paper will present just a sample of the wireframes, the entire wireframes set can be seen in our [final design report folder](#).

As far as the wireframes presented here, we divided them into two categories: the wireframes representing the features we changed from the main website and the wireframes representing additional features that we decided to add.




Features we changed:



Per gli psicologi	Servizi per tutti	SIPO
Diventa psicologo SIPO	Crea il tuo profilo	Chi siamo
Formazione e profilo	Domande frequenti	Contatti
Domande frequenti	Trova psicologo	Rassegna stampa
	Sondaggio	Rapporti SIPO
	Privacy policy	Dicono di noi

A Web Page
https://


Per gli psicologi
Per le aziende
Help...

Trova psicologo
Lo psicologo risponde
Sportello coronavirus
Articoli
Test
Info sui disturbi

# Trova psicologo


In questa sezione troverai tutti i consulenti: psicologi clinici e psicoterapeuti. Scegli il tipo di terapia, il problema e il luogo che ti interessano.

[Non sai che tipo di terapia è giusto per te, o vuoi più informazioni sui disturbi prima di prenotare un appuntamento?](#)

Tipo di terapia ▼
Problema ▼
Luogo ▼


Ordina per


A-Z ▼



[ Nome ]  
[ Luogo ]  
[ Prezzo ]

Aree di intervento:  
  
Tipo di terapia:





A Web Page

https://

Sip

Per gli psicologi

Per le aziende

Help...

search

Il mio profilo

Trova psicologo

Lo psicologo risponde

Sportello coronavirus

Articoli

Test

Info sui disturbi

## Richiedi una consulenza

Contatta: [Dott.ssa Maria Rossi](#)

Nome

Mario

\*

Cognome

Rossi

\*

E-mail


\*

Città

\*

Data di nascita

23 / 09 / 1986



In quale categoria rientra il tuo problema? \*

☐ Problemi di ansia

☐ Dipendenze

☐ Relazioni

☐ Altro

Descrivi brevemente perché hai deciso di rivolgerti ad uno psicologo

E' la prima volta che ti rivolgi ad uno psicologo?


☐ Si

☐ No

Invia



A Web Page
https://


Per gli psicologi Per le aziende Help... search Il mio profilo

Trova psicologo Lo psicologo risponde Sportello coronavirus Articoli Test Info sui disturbi

## TEST - ADHD

L'ADHD è un disturbo da Deficit di Attenzione Iperattività che rientra nella categoria dei Disturbi del Neuro-sviluppo, i quali appunto esordiscono nel periodo dello sviluppo e sono caratterizzati da un deficit che causa una compromissione nel funzionamento personale, ma non solo.

Abbiamo infatti rpercussioni anche a livello sociale, scolastico o lavorativo.

L'ADHD è caratterizzato nello specifico da livelli di disattenzione, disorganizzazione e/o iperattività-impulsività.

Per saperne di più

Compila il seguente questionario di self-report per adulti per saperne di più sui sintomi dell'ADHD.

NOTA: il questionario ti darà un'idea generale sulla possibilità che tu possa avere o meno un disturbo di ansia sociale. Ma NON sostituirà una valutazione completa da parte di un medico.

Di seguito troverai un elenco di domande relative alle esperienze di vita comuni tra le persone a cui è stato diagnosticato un disturbo di ADHD.

Leggi attentamente ogni domanda e rispondi, indicando la frequenza con cui le affermazioni si sono verificate negli ultimi mesi. Cerca di pensarci il meno possibile, affinché possa avere un risultato quanto più accurato.

Al termine del test, puoi scegliere di condividere i risultati con un professionista presente nell'elenco degli psicologi online.

ATTENZIONE: il seguente questionario non possiede alcuna funzione diagnostica, ma è pensato per determinare se si manifestano sintomi simili a quelli degli adulti che soffrono di ADHD.

Il questionario è destinato ad adulti di età pari o superiore a 18 anni e non sostituisce un consulto specialistico. Il suo risultato del questionario ha uno scopo puramente informativo e preventivo e potrebbe risultare utile come eventuale campanello di allarme. Se rispondi affermativamente ad un numero significativo di domande, può essere utile rivolgersi ad un esperto psicologo online o dal vivo, prima che la situazione peggiori.

RICORDA: Una diagnosi accurata può essere fatta solo attraverso la valutazione clinica da parte di un professionista qualificato.

Tendi a ritardare o ad evitare l'inizio di una nuova importante attività?

☐ Per niente  
☐ Poco  
☐ Abbastanza  
☐ Molto

Domanda precedente
Prossima domanda

Domanda 1 di 20


A Web Page
https://

Sip
Per gli psicologi Per le aziende Help... search Il mio profilo
Trova psicologo Lo psicologo risponde Sportello coronavirus Articoli Test Info sui disturbi

# Lo psicologo risponde

## Invia una domanda ai nostri psicologi

Se hai un dubbio, o una richiesta particolare, puoi inviare una domanda ai nostri psicologi in forma totalmente anonima. Riceverai una risposta sul sito e, se vorrai, potrai chiedere aiuto al consulente.






### Cosa vorresti chiedere ai nostri psicologi?

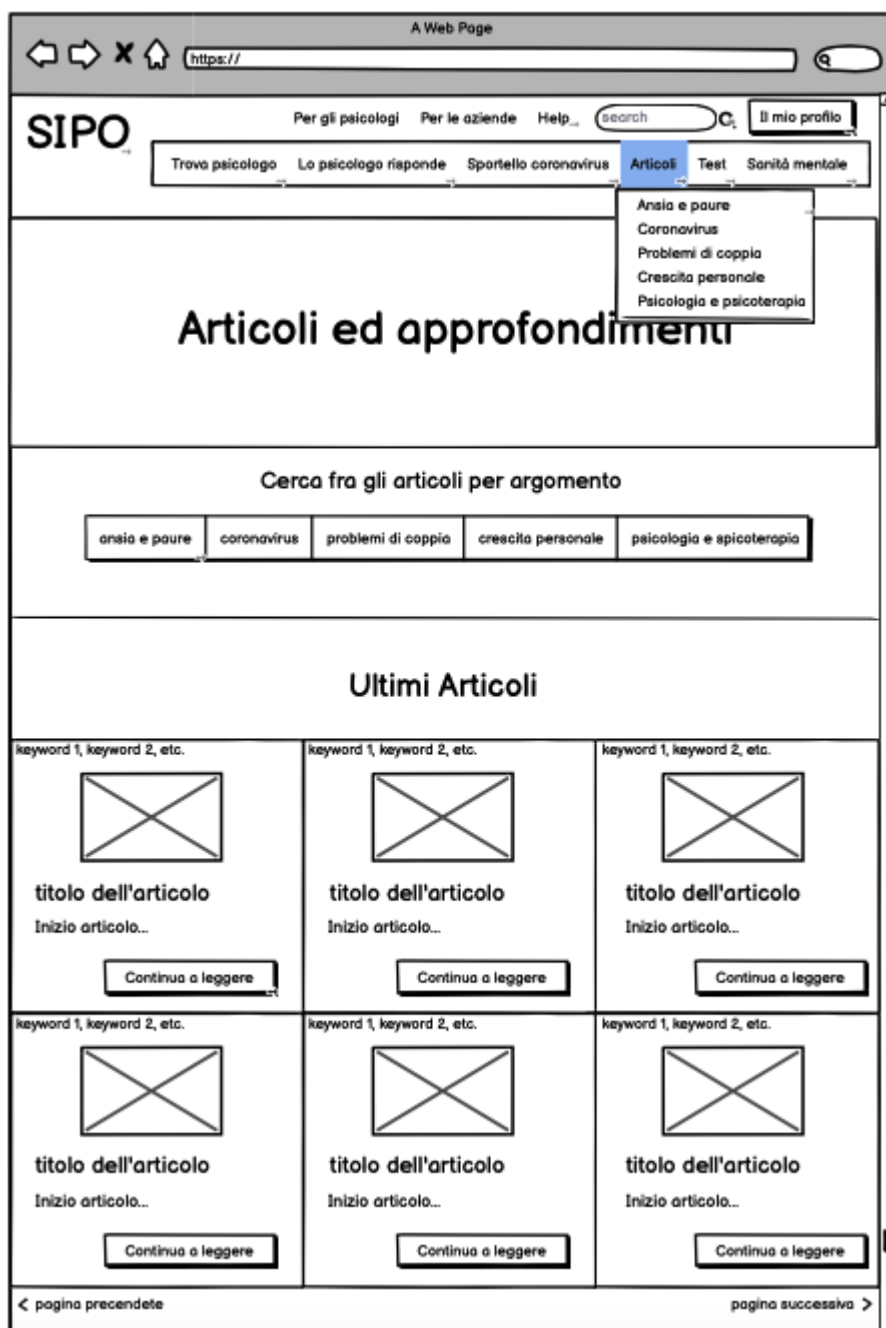
Compila il box qui sotto in forma totalmente anonima. Riceverai una risposta, su questa pagina, dai nostri esperti psicologi.

Scrivi qui la tua domanda...

Invia

## Leggi le risposte alle precedenti domande

keyword 1, keyword 2, etc. <div>  <p>titolo della domanda domanda...</p> <div> Leggi le risposte </div> </div>	keyword 1, keyword 2, etc. <div>  <p>titolo della domanda domanda...</p> <div> Leggi le risposte </div> </div>	keyword 1, keyword 2, etc. <div>  <p>titolo della domanda domanda...</p> <div> Leggi le risposte </div> </div>
keyword 1, keyword 2, etc.	keyword 1, keyword 2, etc.	keyword 1, keyword 2, etc.



Additional features we added:





A Web Page
https://

Per gli psicologi Per le aziende Help...

Trova psicologo
Le psicologo risponde
Sportello coronavirus
Articoli
Test
Info sui disturbi

**Mario Rossi**
[Modifica profilo](#)

Milano  
23/09/1986

Bio:

JANUARY 2021

S	M	T	W	T	F	S
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

### Preferiti

keyword 1, keyword 2, etc.

normal image

**titolo dell'articolo**  
Inizio articolo...

keyword 1, keyword 2, etc.

normal image

**titolo dell'articolo**  
Inizio articolo...

A Web Page

https://

Sip

Per gli psicologi Per le aziende Help\_

search

Il mio profilo

Trova psicologo Lo psicologo risponde Sportello coronavirus Articoli Test Info sui disturbi

Le mie note

04/10/20

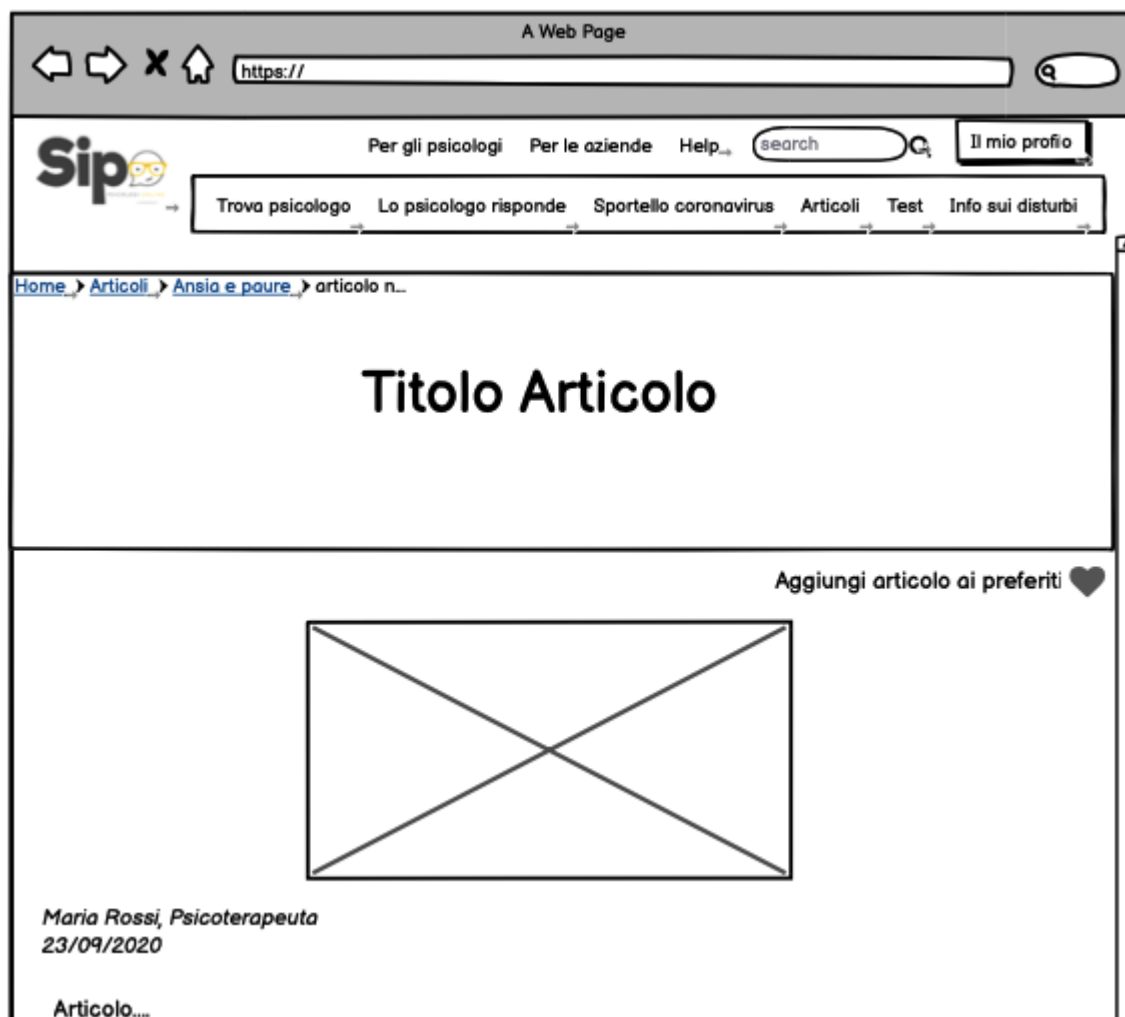
Nota senza nome

Stamattina mi sono svegliato in forma. Mi sono preparato per andare a lavoro e ho fatto un abbondante colazione..

Invia

Delete


65



A Web Page

https://

Q



[Per gli psicologi](#) [Per le aziende](#) [Help..](#)  [Il mio profilo](#)

[Trova psicologo](#) [Lo psicologo risponde](#) [Sportello coronavirus](#) [Articoli](#) [Test](#) [Info sui disturbi](#)

# Help

## Domande Frequenti

▼ Quando richiedere una consulenza?

▼ Quando è opportuno rivolgersi ad uno psicologo online?

▼ Come prenotare un appuntamento?

▼ Question 4

▼ Question 5

## Fai la tua domanda

Non hai trovato la risposta che stavi cercando? Non preoccuparti. Chiedi qui quello che ti interessa sapere, ti risponderemo appena possibile!

### Cosa vorresti chiedere ?

Lasciaci la tua email, così potremo inviarti la nostra risposta

Scrivi qui la tua domanda...

67

A Web Page
https://

SIPO

Per gli psicologi
Per le aziende
Help...
search
Il mio profilo

Trova psicologo
Lo psicologo risponde
Sportello coronavirus
Articoli
Test
Sanità mentale

Cerca...

cerca...

Ricerca Avanzata

search

argomento

ADHD
Ansia
Coronavirus
Other option

tipo di contenuto

Informazioni
Articoli
Domande
Test

Cerca

## **5. Evaluation of design**

The last step conducted during this project was the evaluation of our design.

The assessment of the system performance was carried out in two different phases inspection and testing. During the first one two different methods were used: firstly, a cognitive walkthrough was designed to determine the ease with which a task can be completed by a target user. Then, the Userfocus guidelines were examined once again, to determine the usability of the system from an expert point of view. During the second phase, instead, three different people in our target group were asked to complete a series of tasks in order to appraise the actual users ability to complete common tasks in with the new prototype of the SIPO website.

### **5.1 Inspection**

#### **5.1.1 Cognitive Walkthrough**

A cognitive walkthrough is a fictional execution of a task, done step by step from the point of view of a user, that considers both their ideas and feelings as well as their technical execution of the task with an empirical evaluation of the performance. A cognitive walkthrough is done with a fictional user (Marco Ricci, one of the personas precedently created for the third step of this project was also used to conduct this walkthrough) that carries out a pre-decided task of which the happy path, the sequence of step necessary to carry out this task in the most efficient and effective way, has already been determined. The task has to be completed with a real system or a prototype of the final product.

##### **5.1.1.1 Our cognitive walkthrough**

Persona: Marco Ricci

Task: Booking an appointment with a psychologist expert in dealing with depression

Happy path:

1. Access the SIPO website

2. From the homepage select “Trova psicologo” from the main navigation
3. On the first search box select “online” as type of therapy and on the second search box select “depression”
4. Click on “Cerca”
5. Search, among the result, for a suitable psychologist and select “Prenota un consulto”
6. Complete the form with the required personal information
7. Send the form

Marco nervously scans the homepage looking for a way to find the right therapist for him. It looks promising; he can access the most important elements of the site from the homepage and the layout is clearly defined. The first big title at the top of the homepage catches his eye and in the midst of his anxiety he feels reassured that he is on the right track. He clicks on ‘Trova psicologo’ and sighs in relief when he glances at the search function, placed at the top of the page. He clicks on the drop-down menu titled ‘Tipo di terapia’ and among the four options of online, traditional, chat and group therapy, he chooses the online type of therapy. He then clicks on the second drop-down menu titled ‘Problema’ and hesitates for a second before the long list of mental health issues in alphabetical order. With a heavy heart, he chooses ‘Depression’. He’s not interested in the location of the therapist so he quickly clicks on ‘Cerca’ before he has time to change his mind. He is then redirected to the results page. He briefly glances at the images of the psychologists and reads their areas of expertise and the amount of money they charge for their services. He clicks on ‘Guarda il profilo’ of a psychologist that seems like a good fit. He reads the short bio and the presentation of the therapist’s CV. Marco decides that the therapist looks really promising and clicks on ‘Scarica il curriculum’ at the bottom of the page to read more about her. After going through the pdf document of her CV he is convinced that she could be a suitable choice for him. He closes the document and goes back to her profile. He clicks on ‘Richiedi consulenza’ at the bottom of the page and he is led to a page that asks him to create an account or sign in to an existing one. Since he has never used the site before, Marco clicks on ‘Sign up’ at the right part of the page. He is grateful that the process of creating a profile is short: he fills in his name, surname, birth date and e-mail and sets a username and password. He then clicks on ‘Crea’ at the end of the form and is brought back to the profile of the therapist he was interested in. He clicks once more on ‘Richiedi consulenza’ and is led to another form. He is surprised when he sees that some fields are already filled with the information he gave when creating an account. He only has to fill in an email and the name of his city, state the reason for wanting

to book an appointment with the specific therapist and describe his problem. He clicks on ‘Si’ in the last question about whether this was his first time seeing a therapist and then clicks on ‘Invia’ at the end of the form. He sighs with relief as he reads the message by the site that lets him know that the form was completed successfully and that he would be contacted soon by the therapist.

#### **5.1.1.2 Self evaluation of the cognitive walkthrough**

Marco’s character has been used for this evaluation. We have tried to represent his state of mind and understand the reasoning behind his actions. It was fundamental, to us, to underline the stress a person may be going through while using this website and to report how this may affect the choice of the actions to complete. Given the straightforwardness of this task the fact that Marco follows almost perfectly the happy path is to be expected. Nevertheless, there is a significant difference between his choice and the path we determined was the most efficient. Marco chooses to look at the Bio and at the curriculum of a psychologist before booking an appointment. This is not a really necessary step for the completion of the task at hand (and no one of our test users did it while completing the same task), but it underlines the validity of Marco’s process in our point of view. The choice of the right psychologist, someone a person can feel at ease with, someone that seems trustworthy, professional and able to help, is a fundamental step in a real scenario because therapy is expensive and getting the right help is not easy. This is why, even though our persona didn’t follow the happy path perfectly, and took significantly more time to complete the task than our test users did, we still consider this walkthrough a success, and a reliable simulation of a possible user interaction with this website.

#### **5.1.2 Guidelines evaluation**

The second type of inspection that was carried out was the evaluation of the mockup of the website done with the Userfocus guidelines. Those are the same guidelines that have been used to inspect the original sistem at the beginning of our work. The reason behind this choice is quite straightforward. The validation of the work done during this project under the same



guidelines shows clearly how much the site has improved in terms of usability and what can still be done.

This figure shows an overview of the usability of the final prototype of the new SIPO website. It is to be said that the prototype does not include all pages of the website nor it is detailed in terms of content, so the answer to some questions given by the guidelines has been given while assuming that certain changes, like the writing form or the creation of some minor pages, would

	Raw score	# Questions	# Answers	Score
Home Page	13	20	14	96%
Task Orientation	15	44	18	92%
Navigation & IA	13	29	17	88%
Forms & Data Entry	6	23	8	88%
Trust & Credibility	7	13	8	94%
Writing & Content Quality	8	23	11	86%
Page Layout & Visual Design	18	38	24	88%
Search	10	20	13	88%
Help, Feedback & Error Tolerance	13	37	18	86%
<b>Overall score</b>		<b>247</b>	<b>131</b>	<b>90%</b>

have been planned or done in a real redesigning scenario.

#### Violated guidelines:

- Navigation and IA: 30. Navigation only pages such as the homepage can be seen without scrolling
- Page layout and Visual design: 35. Color is used to group items on the page
- Help, Feedback and error tolerance: 30. The site provides feedback that helps the user learn how to use the site

The evaluation of the Homepage shows that all major issues found during the assessment phase have been solved. The homepage maintains a distinct look from all the other pages in the website and cannot be confused with any other page but the content has been reorganized to really put into focus the most important features of the website. The navigation choices have been changed and updated to give a clearer idea of the contents of the pages as well as avoid repetition. Where the choice of a navigation item seemed in an unsuitable location given its purpose (i.e., for example the insertion of the FAQ section as part of the menu under the “trova psicologo” item) it has been removed and placed in a more suitable location.

The purpose of the website is clear at first glance and pages about what SIPO is and how to contact representatives have been included.

Task orientation is now more clear. The information follows a more logical order than in the previous website so it is easier for users to complete tasks. Furthermore, if needed, help and additional information are given in various ways. The important calls to action are very visible but the choice of whether to use them or not is always left to the user.

Navigation and the information architecture have been improved a lot. The information that users are most likely to need is easy to navigate to from most pages and there are no deadends thanks to the navigation tabs. The navigation has been redesigned and items have been placed following a clear hierarchical and organizational structure.

Forms and Data entry was one of the best scoring categories for the website and it hasn't been changed much.

Nevertheless the form now asks fewer questions, only those strictly necessary to book an appointment. The remaining questions have been moved to a survey that can be completed after the form if a user wants to. Clearer instructions are also available when a field has not been completed appropriately as well as an explanation on why those answers are needed.

Trust and credibility is very important for a website offering psychological help. The prior inspection revealed that the content always seems reliable and people trust the information they receive. Nevertheless, finding contacts or asking questions has been made easier and a 'Chi siamo' page has been created to increase trust in this service.

Writing was a serious issue in the original version. Nevertheless, our lack of knowledge in the topics of the website limited the changes in this part. The content has been simply reorganized. When necessary new pages have been created to divide the content as well as using lists and titles to divide sections and present content.

Page layout and visual design has been improved a lot. The website now has a cohesive layout. Navigation items are easy to locate and recurring items in different pages can be located always in the same place. Buttons have been constructed keeping in mind their purpose and their aspect makes clear what they do.

A search feature was not available at all in the original website. The creation of a search function as well as an advanced search with keywords was fundamental to us because, even though the website is simple to navigate, the contents are many and of various nature and not all information on a topic can be easily found. The default search is present on the navigation bar and can be accessed from every website. After an initial search it is possible to refine even more the results by topic and by type of content. It is a simple search but it is able to provide results for synonyms as well as check for grammar errors and provide alternate choices in case of error or no results.

The last category to evaluate is Help, Feedback and error tolerance. Help and feedback are the most improved sections. An Help page has been created and it includes the FAQ section of the previous website as well as a question box to pose new technical questions. Help and feedback are also given around the website. The correct completion of the form, survey and self tests are communicated. The only point where the original website did not tolerate an error (i.e., the self test completion) was fixed.

All in all, the overall score has increased quite a lot, 90% opposed to the 65% scored by the original website. All categories have been reanalysed and major adjustments have been made in almost every category to ensure usability. Of course, the score is not perfect and additional corrections could still be made to improve the quality of the website.

## **5.2. User testing**

The second phase of our evaluation was carried out with the help of external users. Three people were asked to conduct a series of tasks. After analysing their choices and their ease while completing the tasks it was possible to evaluate the prototype and correct the issues they underlined. Then another user was asked to complete the same tasks with the improved prototype to complete our evaluation.

### **5.2.1 Definition of the testing protocol**

Once again, the choice in methodology fell on discount testing and the thinking out loud method.

Four different users in our target group were asked to perform the same nine tasks on the prototype, all common occurrences in the website, while speaking about their choices, the issue they encountered or any and all comments they felt comfortable providing while completing the test.

Before starting, the users were informed of the nature of the website, of what the testing would entail in general and were reassured that the test was for the prototype and any issue they might have encountered was not their own fault but a bad design choice on our part.

During the test users were recorded and timed.

Nine tasks might seem a lot but, as it has already been mentioned, the site is easy to navigate and the completion of the tasks should not take long, especially on the wireframes.

The tasks were chosen to test the overall use of the website and all its major functions.

Here is the list of tasks:

- booking an appointment with a psychologist
- looking for articles about the specific topic “ansia e paure”
- looking for information about an problem “ADHD”
- read on different types of therapy (support groups, personal therapy etc.)
- look for a psychologist who is expert on a specific disease (depression)
- find self test about ADHD
- search for all content about depression
- Create a new note on your journal
- Ask a question about how to pay for sessions

After completing the tasks the users were asked to complete a System usability scale form in order to understand the satisfaction of the users with our prototype.

### **User 1**

Marco, 28 years old, has a master’s degree in chemistry. He currently works as a clerk. He is very comfortable with technology.

### **User 2**

Sebastiano, 24 years old, master’s degree in Biotechnology. Currently working as a predoctoral fellow at university. He has a high knowledge of technology.

### **User 3**

Maria, 24 years old, bachelor degree in English language. She currently works as a teacher of English. She is moderately confident about her technological competence.

### **User 4**

Davide, 22 years old, is completing a bachelor degree in Law. He works part time as a shop assistant. He has a good knowledge of technology.

## 5.2.2 Test summary

### User 1: Marco

#### Task 1: completed with 4 actions

From the homepage he chooses trova psicologo and simulates the search effortlessly. He takes a couple of seconds to understand where to click to book an appointment then he clicks on prenota un consulto e completes the form without any issue. *He comments that he would highlight someone the presence of results after clicking on 'cerca'*

#### Task 2: completed with 2 actions

He chooses articoli on the main navigation and then sees immediately the option of ansia e paure as second navigation in the main articles page. He clicks on it to complete the task

#### Task 3: completed with 4 actions

He chooses articoli and immediately realises it is wrong. Then he uses the search function (correct but unforeseen completion). Prompted to find another option, searches under lo psicologo risponde and then chooses Sanita mentale but only because there was no other option. Then he immediately finds info on ADHD. *He comments that sanità mentale is not a clear title for the section).*

#### Task 4: completed with 4 actions

From the homepage clicks on sanità mentale but misses the link to tipologie di cura. He searches under 'Trova psicologo' but can't find it. After a bit of scrolling goes back to sanità and finds the right information.

#### Task 5: completed with 3 actions

He immediately goes to trova psicologo and chooses the right option and then clicks on cerca.

#### Task 6: completed with 2 actions

Clicks on test and on the right test. *He comments that test doesn't sound great as a term.*

**Task 7:** completed with 2 actions

Goes on search and types depression, then ‘cerca’.

**Task 8:** completed with 4 actions

He immediately goes to il mio profilo and clicks on new, he pretends to write the new entry and then clicks on ‘Aggiungi’.

**Task 9:** completed with 3 actions

He goes to the help and since he doesn’t see his question in the FAQ sections says he would ask it on the question box.

**User 2: Sebastiano**

**Task 1:** completed with 5 actions

When seeing “il mio profilo”, he wonders if he can book an appointment even if he is not registered to the website. So, he goes to “il mio profilo” and explores it. He sees “search” and thinks he could book an appointment there.

After browsing the website, he goes to “trova psicologo” and books the appointment. He also does the questionnaire. *He mentions that SIPO does not mean anything to him so he would add the explanation of the acronym.*

**Task 2: 2** completed with 2 actions

He goes to “articoli” from the homepage, without clicking the item in the navbar. He says that the homepage caught his attention more than the navbar.

He sees the macroarea concerned with “ansia e paure” and clicks on it. *He says that the macro areas are too few. He would like to see a search by keywords instead than the macro areas.*

**Task 3:** completed with 4 actions

He goes to “articoli” because he thinks he could find scientific articles there. He realizes the information he is looking for is not there. He goes to search but finds it confusing because he does not realize he can activate the advanced search by clicking on the magnifying glass.

After a bit he goes to Sanità mentale and finds the information. *He comments that Sanità mentale is not a clear term in regards to its contents.*

**Task 4:** completed with 3 actions

From the homepage, he goes to “lo psicologo risponde” to see if someone talked about it. He does not find anything, so he goes to “articoli”. He does not find anything there, either. So, he thinks he could find something by using the search function.

**Task 5:** completed with 3 actions

He goes to “trova psicologo” and does the search and finds what he is looking for.

**Task 6:** completed with 2 actions

He goes to “test” and finds what he is looking for.

**Task 7:** completed with 2 actions

He goes to “cerca” and types what he is looking for

**Task 8:** completed with 3 actions

He goes to “il mio profilo” and clicks on “nuovo”, then on “aggiungi”

**Task 9:** completed with 2 actions

He goes to “Help” and, if no one mentioned it, he says he would ask his question.

### **User 3: Maria**

**Task 1:** completed with 2 actions

She scans the top of the page and immediately clicks on Trova psicologo. She then clicks on ‘Cerca’. *She mentions that this task was easy but he does not know what SIPO means.*

**Task 2:** completed with 2 actions

She clicks on “articoli” on the homepage and scans the page. She clicks on the topic of interest without problems.

**Task 3:** completed with 4 actions

She is wondering how to go back from the page of Articoli. She tries the search and I encourage her to search for another way. She goes through the entire navbar and takes a while to read all the titles. *She mentions that she expected this piece of information to be in Articoli.* She continues searching on the navbar and finally clicks on the right section. *She suggests changing the title of the section because ‘sanità mentale’ is too abstract.*

**Task 4:** completed with 2 actions

She had already seen the section about the types of therapy from the previous task so she immediately clicked on it.

**Task 5:** completed with 3 actions

She goes to “trova psicologo” and does the search. She finds what she is looking for.

**Task 6:** completed with 2 actions

She goes to “test” and finds what she is looking for.

**Task 7:** completed with 2 actions

She goes to “cerca” and types what she is looking for

**Task 8:** completed with 3 actions

She goes to “il mio profilo” and clicks on “nuovo” and then on ‘Aggiungi’.

**Task 9:** completed with 2 actions

She goes to “Help” and, if no one has already mentioned it, she says she would write her question.

### **5.2.3 Analysis of the problems reported by users**

After examining the way users completed the tasks as well as the things they commented or struggled most with we noticed some things.



All in all the most difficult task for our users was to find information regarding a certain mental issue. This was the most difficult task even in the assessment of the result and it appears that, even though information is now available all in the same section, the name we choose is not descriptive enough for an easy understanding. It is clear that this has to change to better aid the users.

The possibility of accessing the same content in different ways is very important. Our users completed the tasks in different ways but in some contexts it is possible to include more explanations and links to related resources.

Sipo is an acronym for Servizio Italiano Psicologi Online, but unless searched for it is not immediately clear what it means. It is important to display it as well as an explanation to clarify the meaning and, at the same time, make clear what the site is about at first glance.

Here is a table with the most relevant issues and comments that emerged from the users tests and comments, as well as the solution that was ideated.

Issue	Solution
In the main navigation ‘sanità mentale’ is not a clear term for the type of content of that section. (mentioned 3 times)	The item name in the navigation bar has to change to ‘Info sui disturbi’
In the ‘trova psicologo’ page, the search options are not totally clear even with the active default values. (mentioned 1 time)	A link is added to the ‘Info sui disturbi’ page which holds the related information
In the ‘Trova psicologo’ page, the results should be underlined somehow. (mentioned 1 time)	A simple Risultati, before the profiles should be enough to clarify
The name Sipo is not a well known one and it is not clear what it means. (mentioned 1 time)	The logo is added, it contains the acronym and the explanation
The ‘Chi siamo’, now on the footer is not very accessible.	The page could be moved but it is a minor issue and it has not been fixed

### 5.2.4 Final user testing

After correcting the issue identified with the previous rounds of testing the same tasks were completed by a fourth user, to test the actual improvement of the system.

#### User 4: Davide

##### Task 1: completed with 5 actions

From the homepage he chooses scopri di più on the trova psicologo banner and simulates the search effortlessly. He takes a couple of seconds to understand where to click to book an appointment then he clicks on guarda profilo, then on prenota un consulto e completes the form without any issue.

##### Task 2: completed with 2 actions

He chooses articoli on the main navigation and then sees immediately the option of ansia e paure as second navigation in the main articles page. He clicks on it to complete the task.

##### Task 3: completed with 2 actions

He chooses informazioni sui disturbi, then clicks on Informazioni su ADHD.

##### Task 4: completed with 2 actions

From the homepage clicks on cerca because he can't find the information from the main navigation.

##### Task 5: completed with 3 actions

He immediately goes to trova psicologo and chooses the right option and then clicks on cerca.

##### Task 6: completed with 2 actions

Clicks on test and on the right test.

##### Task 7: completed with 2 actions

Goes on search and types depression, then 'cerca'.

**Task 8:** completed with 4 actions

He immediately goes to il mio profilo and clicks on new, he pretends to write the new entry and then clicks on ‘Aggiungi’.

**Task 9:** completed with 3 actions

He goes to the help and since he doesn’t see his question in the FAQ sections says he would ask it on the question box. *He comments that it is highly unlikely that people will actually ask questions if they cannot find the answer they seek.*

### 5.2.5 Analysis of subjective and objective data

Task	User 1	User 2	User 3	User 4
Task 1	No error	No error	No error	No error
Task 2	No error	No error	No error	No error
Task 3	Major error	Major error	Minor error	No error
Task 4	Cosmetic error	Cosmetic error	No error	Cosmetic error
Task 5	No error	No error	No error	No error
Task 6	No error	No error	No error	No error
Task 7	No error	No error	No error	No error
Task 8	No error	No error	No error	No error
Task 9	No error	No error	No error	No error

The error-free rate is 83% . As it can be seen most tasks can be completed successfully without any issue. Those that present the major problems are task three and four and issues presented in those tasks have been dealt with before asking the fourth user to complete the same tasks. As it can be seen part about the result of user 4 the biggest error has been corrected while the

information on types of therapy is not yet extremely clear. Further work on it could be done to highlight it.

The number of actions needed to complete the tasks is never high, which was expected, given the simple nature of this website. Furthermore, the most important task, booking an appointment with a specialist, does not require more than 4 or 5 actions.

Nevertheless, a great success of this redesign is the inclusion of a search page. In situations of doubt all users have used it to successfully complete a task even when they were not sure of the correct path to take.

All in all, it can be seen that all tasks, even those that presented some issues, can be completed. The success rate of the user testing of the prototype is 100%

After the tasks, our users were provided with a SUS (System Usability Score) questionnaire that evaluated the SUS score, which is 82%. This result shows a big improvement over the original website.

## **Final recommendations**

As the results point out the work completed during this project improved the website and enhanced it. But the results also show that the work is not done. Some adjustments can still be made to improve the usability of the system. For instance, the types of therapy page should be more visible. Furthermore, since we only created blueprints, the color scheme has not been delineated completely. The advanced search is possible but it could be further enhanced with the addition of more settings or filters. The FAQ section of the help page needs to be enhanced, to present most possible questions. The profile could be further enhanced and more features could be added, depending on the real necessities of the patient-psychologist work.

Furthermore, the client should be aware of the privacy concerns our users underlined and provide clearer assurance of their trustworthiness.

The actual inclusion of therapy done via chat could be a great advantage, as it has been already implemented by several other organization and it is becoming an important method while dealing with specific issues.

Ultimately, we believe our work to have been a step in the right direction to improve the usability of this system but we know that this prototype could still be improved in both in terms of features and of usability design.

## Conclusion

The aim of the project was the redesign of the SIPO website. This specific website was chosen because we think that, especially in a time of crisis like the one we are living in right now, taking care of one's mental health is a highly relevant topic. Some problems are hard to deal with and speaking only with the people we care about might not be enough for everyone. This is why a service like the one SIPO offers, counseling for people in need even when meeting in person is not possible or advisable, is very important.

This project reports displays thoroughly all the steps needed to carry out this redesign.

First of all, it was necessary to select a target audience that is interested in these services, has the capabilities to use these services but for some reason is not using them as much as it could. We selected the age of 18-29, as it is the age group that suffers less from bias against therapy so it is more likely to use the services of Sipo if needed. Furthermore, we needed people with at least moderate technological skills, as all services are carried out with a computer. Finally, we needed people with economic independence, as therapy can be quite expensive.

Then we started our work by analysing the website separately and together, following usability guidelines and by testing the system with the help of users.

Even though this analysis showed that the website can be used and most tasks can be completed, it still pointed out the existence of many weak points that could stop people from reaching out. This is why our redesign aims at improving the features that already existed and designing new ones that can further help people while browsing the site.

We investigated our users, the way they would use this website, the difficulties they might encounter. From the analysis of the context of use and the results of the interviews and survey carried out at the beginning, we devised a series of personas with different objectives, capabilities and stories. We then placed our personas in scenarios to demonstrate why they might need the Sipo website and how they would use it.

During all the phases of our redesign, we always kept in mind fundamental aspects of user-computer interaction, such as the dialogue, the screen design and the rules of data display. Having the theoretical assumptions in mind, we started the redesign.

In order to prepare the redesign we started from the creation of a blueprint showing all the pages and how they are related to one another. The blueprint, which worked as a basic skeleton

for our implementation, functioned as the basis of the implementation of the wireframes. We used Balsamiq, a powerful software devoted to the creation and presentation of wireframes. We therefore created more than 30 wireframes able to explain the main features we changed and the new features we propose for the implementation.

The last step of our work was the evaluation of our work. We needed to understand whether the changes made were actually helpful and improved the system, as well as what could still be improved. We started by inspecting the system, first by creating a cognitive walkthrough and examining the results, then by carrying out the same expert usability review we used to evaluate the previous site. We observed a significant improvement so we proceeded with carrying out an evaluation with the help of some users. We asked four people to complete a series of common tasks and examined the ease with which they completed the tasks and the comments they made. Based on their feedback we further improved the system.

All in all, the work done has enhanced a website that offers a very important service. There is still room for improvement, as the evaluation showed that some adjustments as well as feature enhancing are still possible. Nevertheless, the design we propose may be a good starting point for the actual improvement of the services provided by SIPO.

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