

UUX 19/20 - PROJECT HIGHLIGHTS

Spazio Giovani Bologna

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Introduction

- **Project focus** Design of the user experience related to an ancillary site of Servizio Sanitario Regionale - Emilia Romagna Azienda Unità Sanitaria Bologna, concerning the *Spazio Giovani Bologna*, an health service dedicated to young people 14-19.
- **Reason** The sections concerning *Spazio Giovani* of the territory of Bologna on the original site are poor in information and dispersive. Young people are not motivated to navigate it and consequently do not exploit the potential of the site for the use of the services offered.
- **Main goal** Motivate young people to benefit from the website and services offered by *Spazio Giovani* of Bologna as much as possible



1. ETHNOGRAPHIC ANALYSIS

1.1 SEGMENTATION OF TARGET AUDIENCE

Analysis of official data published by Servizio Sanitario Regionale - Emilia Romagna provided by Sistema Informativo Consultori (SICO) and ISTAT.

1.2 USER RESEARCH

1.2.1 MARKET RESEARCH AND CONTEXTUAL INQUIRY

1.2.2 TASK ANALYSIS



1.1 SEGMENTATION OF TARGET AUDIENCE (1/2)

Given the focus of our research, we analysed in particular the results related to *Spazio Giovani* of the Bologna territory for the year 2019. It includes six districts:

- Città di Bologna district
- Pianura Est district (Castelmaggiore)
- Pianura Ovest district (San Giovanni in Persiceto)
- Appennino Bolognese district (Vergato)
- Reno, Lavino e Samoggia district (Casalecchio)
- San Lazzaro di Savena district

**Sistema Informativo
Consultori (SICO) and
ISTAT data**

1.1 SEGMENTATION OF TARGET AUDIENCE (2/2)

62,396 = total number of users of family counselling services in Bologna (2019)

→ 2,682 = number of *Spazio Giovani* users

FEMALE USERS (2,339) > MALES USERS (343)

ITALIAN USERS (2,313) > FOREIGN USERS (369)

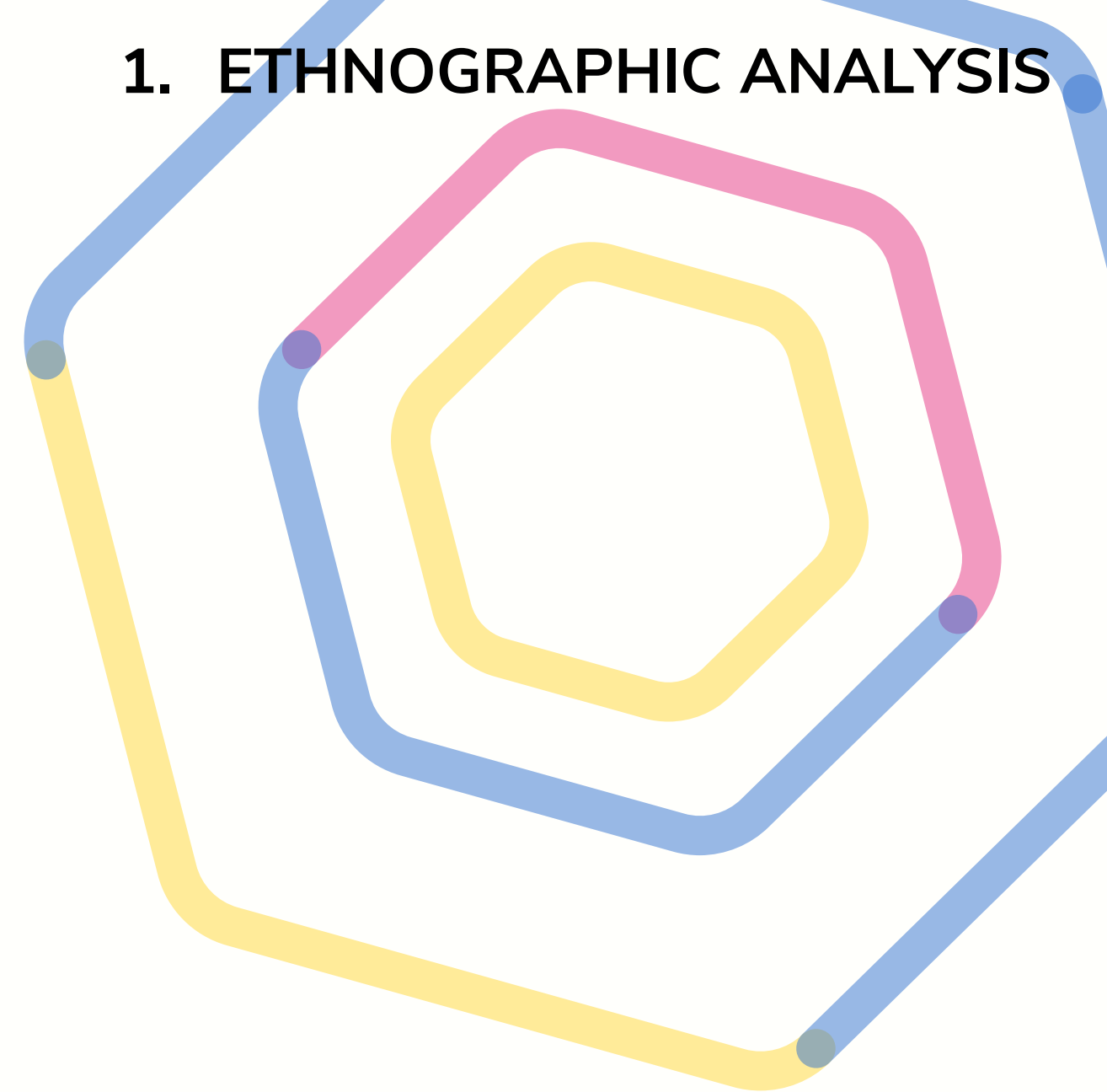
TOTAL USERS BETWEEN 14-19 = 2,043 = 3,86% of young people living in Bologna use the services

→ **LACK OF MOTIVATION**

1.2 USER RESEARCH

1.2.1 Market research and contextual inquiry

- Google reviews (not trustable data)
- Interview to Beatrice (16), Costanza (17), Silvia (19):
 - 2/3 know the counselling centre (known through friends/family)
 - 2/3 never used the service but they think they could use it in future
 - everybody think it could be a very useful service for young people



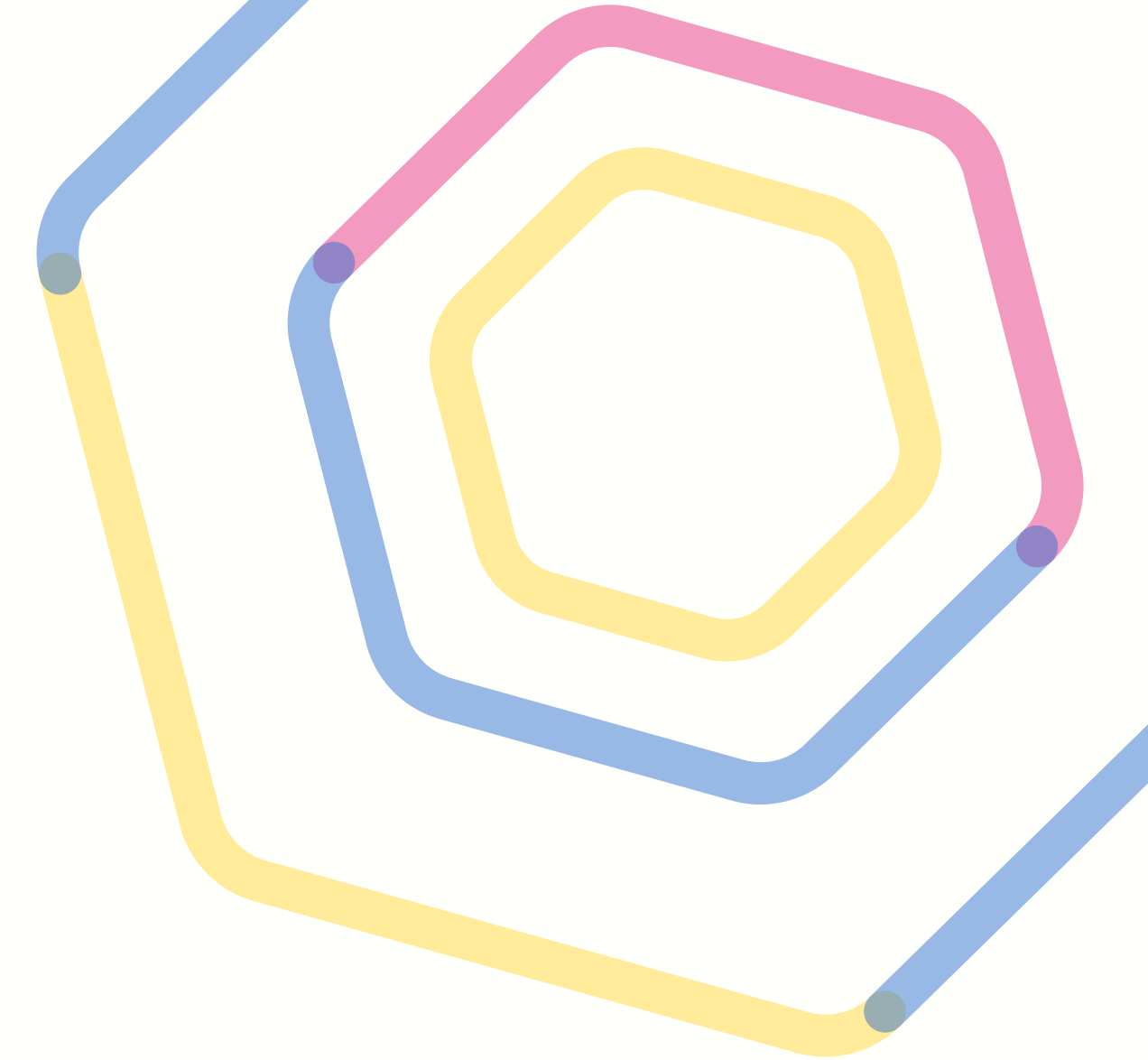
1.2 USER RESEARCH

1.2.2 Task analysis

To have an idea of how the site works we have selected a series of tasks that the user most likely to perform on the site to reach different goals.

- Look for general information about services for young people offered by the counselling centre.
- Look for opening hours and address of Saragozza's counselling. (paths A and B)
- Book a gynaecological visit. (paths A and B)
- Information for free contraception
- Counselling for teachers, parents, educators (paths A and B)
- Look for information concerning the morning-after pill.

1. ETHNOGRAPHIC ANALYSIS



- **LONG SEQUENCES OF CLICKS**
- **HIGH SEARCH TIME**



2. ASSESSMENT OF EXISTING RESOURCES

2.1 EXPERT USABILITY REVIEW

2.1.1 CHOICE OF GUIDELINES

2.1.2 FIRST INSPECTION OF THE SYSTEM

2.1.3 DIRECT AND REVERSE ANALYSIS

2.2 USER TESTING

2.2.1 DEFINITION OF THE TESTING PROTOCOL

2.2.2 TESTING PHASE

2.2.3 POST TESTING PHASE

2.2.2 CURVES OF URGENCY





2. ASSESSMENT OF EXISTING RESOURCES

In order to identify the resource on which to carry out an assessment, an accurate sector benchmark of the Italian Spazio Giovani sites has been made. The sites taken into consideration were those of:

- **Spazio Giovani Parma > selected website**
 - Spazio Giovani Rimini
 - Spazio Giovani Enna
 - Spazio Giovani Genova
- 

2.1 EXPERT USABILITY REVIEW

2.1.1 Choice of guidelines: userfocus.co.uk (247 guidelines)

2.1.2 First inspection of the system

- The site satisfies its purposes
- The material is useful and reliable.
- Errors:
 - Fundamental information are not adequately valued.
 - The chat is not working.
 - Redundancy of links for access to the same content.
 - Search function not implemented on the whole site

2.1.3 Direct & Reverse analysis



2.1.3 Direct and Reverse Analysis (1/2)

Summary of results

	Raw score	# Questions	# Answers	Score
Home Page	3	20	19	58%
Task Orientation	10	44	28	68%
Navigation & IA	-1	29	21	48%
Forms & Data Entry	2	23	15	57%
Trust & Credibility	8	13	10	90%
Writing & Content Quality	11	23	19	79%
Page Layout & Visual Design	14	38	36	69%
Search	-11	20	20	23%
Help, Feedback & Error Tolerance	3	37	20	58%
Overall score		247	187	61%

2.1.3 Direct and Reverse Analysis (2/2)

Errors	Frequency	Impact	Persistence
Important content is not properly highlighted on the homepage. For example, "Chi siamo" and "Link utili" are in the footer and not in the foreground as you would expect.	4	1	5
One of the fundamental parts of the site, such as the chat, is not working, the user cannot complete the task.	2	4	1
There are a lot of information and long texts. The user does not have the possibility to filter or order them in any way.	5	1	3
There is neither a navigational feedback on any page that shows the user the path made to reach the current section, nor the "back" button that allows you to return to the previous page.	5	4	5
In the navbar, the first two sections "Io e..." and "Chiedi Avete chiesto" are, in terms of content and information, the core of the site. However, the labels of the sections are not clear and intuitive enough regarding their content.	3	2	2
An element that may confuse the user is the fact that download windows do not open in new tabs but replace the page the user was visiting.	1	1	1

There is not a good balance between text, white spaces and colour (it is not used to give breath to very long texts). This has a negative effect on the user's concentration .	4	1	3
The links and buttons do not provide an indication of whether they have already been clicked, an element that would be useful for navigation.	1	1	5
The results provided by the search function are not sorted according to any relevance criteria, moreover it is not possible to sort and filter them and it is not possible to decide how many results to see per page. The search option is not precise about the number of results encountered.	2	5	1
In the "Forum" section there are two search tools, one of which do not work.	1	2	1
In the "Forum" section the search tool is not visible because not clearly labelled. The search can not be updated and can not be saved. In the results the keyword is not evident so it is not easy to identify useful results.	1	1	1
In case of erroneous actions the messages provided by the website are not sufficient for the user to understand what he/she did wrong or what actions are missing to complete the task.	2	1	1

2.2 USER TESTING

2.2.1 Definition of the testing protocol

Test type: Discount Usability Testing

Platform: Zoom → due to COVID-19

Test methodology: Thinking Aloud

Final assessment questionnaire: System Usability Scale (SUS)

List of tasks to test:

1. Look for information about what Spazio Giovani does, who it addresses and the services it offers (note that you should find this information in a single section).
2. Find the telephone number and address of Spazio Giovani to book an appointment.
3. Find information on emergency contraception.
4. Find information about Spazio Giovani Più 20-34.
5. Make a question to the counselling centre making sure that it is not present among those already made. The question is: “Is there a direct relationship between smokers and covid-19 predisposition?”

2.2.2 Testing phase

Tester	Short bio	Justification of users selection
Pilot tester - Fabio	Fabio, 21 years old, was born in Rimini	check the efficiency of the organization of the test. he can not be included in the test because he does not fit the target audience.
Tester A - Francesca	Francesca, 19 years old, born in Bologna. Attendant of the first year of Maths at the Unibo. Direct experience with the Spazio Giovani. Good knowledge of website navigation.	She has direct experience with Spazio Giovani Bologna but has never used the information available online as she always finds herself in difficulty in doing so; therefore she prefers to contact them by phone in case of need.
Tester B - William	William, 16 years old, born in Bologna, Attendant of the Laura bassi High School in Bologna. Sensitive to topics such as LGBT rights and Gender equality, active in promote activities about sexuality and prevention.	He was chosen because of his young age. Given his interest in these topics he may be interested in finding useful information to share with friends.
Tester C - Beatrice	Beatrice, 28 years old, born in Bologna. Degree in Law. She trains a under 16 volleyball team. Not confident with technology.	Reference figure for young girls who tend to talk to her about personal issue. She would like to find out more about topics that could help the girls.

2.2.2 Testing phase: Tester 0

Tester 0	Successful task completion	Critical errors	Non-critical errors	Time on task
Task 1	Task abandoned	The user was nervous because he couldn't find the required information and decided to abandon the task.		2.37 min
Task 2	Task completed			0.29 min
Task 3	Task completed			0.20 min
Task 4	Task completed			0.31 min
Task 5	Task not completed	The user initially searched through the search bar if the question had already been asked. As no solution could be found, he thought of contacting the consultancy by email.		1.43 min

- The test was useful to make sure that questions were consistent, the team was prepared and the duration of the test was reasonable.
- Thanks to the completion time of Tester 0 we were able to decide on a maximum time for the subsequent tests.
- His results were not taking into consideration in the general testing results.

SUS Final score: 27.5

2.2.2 Testing phase: Tester A

Francesca	Successful task completion	Critical errors	Non-critical errors	Time on task
Task 1	Task completed		Before she found the information in the correct section, she explored three different sections.	2.50 min
Task 2	Task completed			0.22 min
Task 3	Task partially completed	Having misinterpreted the task, she wasted time looking in the wrong section and ended the expected time for completion.		Out of time (> 2.00 min)
Task 4	Task completed			0.28 min
Task 5	Task completed			1.24 min

- She had problems finding the information because they are not well organized and dispersed.
- She says that given the difficulty in using the site she would not use it to search for the information she needs and that she would prefer to call them by phone.

SUS Final score: 27.5

2.2.2 Testing phase: Tester B

William	Successful task completion	Critical errors	Non-critical errors	Time on task
Task 1	Task completed		Before reaching the goal he explored 4 different sections.	1.43 min
Task 2	Task completed			0.10 min
Task 3	Task not completed	He focused on the wrong section and ran out of time.		Out of time (> 2.00) min
Task 4	Task abandoned	He explored 5 different sections before realizing that he couldn't find the required info so he abandoned the task		/
Task 5	Task completed			1.19 min

- The website is very useful to find relevant and reliable information.
- The website is not organized in a logical way and that there is a lot of confusion.
- People who are in real emergency and need information immediately may be even more confused.
- He found it particularly frustrating that key and primary information was not as evident on the homepage.
- Terms used are too specific and scientific and difficult to understand for young people.

2.2.2 Testing phase: Tester C

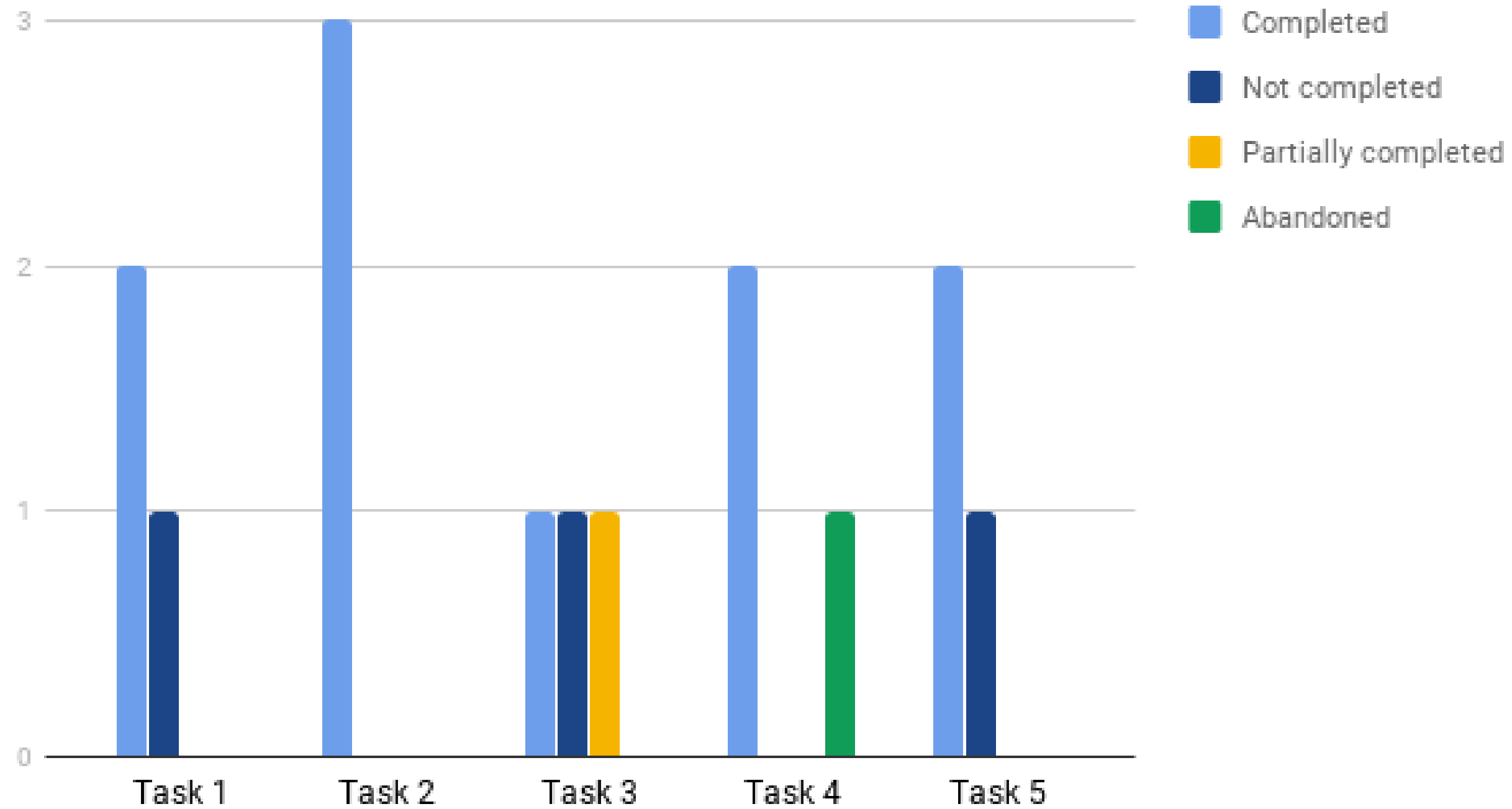
Beatrice	Successful task completion	Critical errors	Non-critical errors	Time on task
Task 1	Task not completed	Before she thought she had completed the task, she explored three wrong sections, reaching the fourth section that she mistakenly believed to be correct.		2.18 min
Task 2	Task completed			0.10 min
Task 3	Task completed			1.18 min
Task 4	Task completed			1.04 min
Task 5	Task not completed	After inspecting almost all sections of the site, she believed that she had searched for the information in the correct place without actually doing the search. The task was not completed because she did not find the correct section.		2.07 min

- Beatrice considers the site pleasurable mainly because she was convinced that she had successfully completed all the tasks.
- She believed that all the useful information is well highlighted.
- She doesn't consider the site very intuitive for secondary functions and says that finding information by phone is easier than using the site.

SUS Final score: 50

2.2.3 Post testing phase - Chart of results

Points scored



2.2.3 Post testing phase: Task Analysis (1/2)

Task 1: Look for information about what Spazio Giovani does, who it addresses and the services it offers (note that you should find this information in a single section).

General difficulty to find information about what Spazio Giovani does, who it addresses and the services it offers. Users expected to find this information in a more obvious part of the homepage.

Task 2: Find the telephone number and address of Spazio Giovani to book an appointment.

Most easily completed task by everyone. Information is easily found and positioned where users expected to find it (in the navbar and footer).

Task 3: Find information on emergency contraception.

Difficulty in identifying the correct macro section (“Io e...”), mainly because it is not clearly titled. Within the macro section, another problem is the side menu which is not immediately perceived as a subsection. Regarding this, an interesting note made by tester B is that, in a possible moment of emergency, when information must be found quickly, this site is not supporting the search.


2.2.3 Post testing phase: Task Analysis (2/2)

Task 4: Find information about Spazio Giovani Più 20-34.

The testers who managed to complete the task performed the task successfully only because they had already detected a link to the section in the previous tasks.

Task 5: Make a question to the counselling centre making sure that it is not present among those already made. The question is: “Is there a direct relationship between smokers and covid-19 predisposition?”

All testers identified the correct section in which to ask a question. However, the search for the questions already asked by users to the experts of Spazio Giovani was carried out differently and not always in the correct way.



2.2.3 Post testing phase: Identification of usability problems (1/4)

Id error	Error	Frequency	Impact	Persistence	Phase of detection
1	The most important information is not highlighted. An intensive exploration is required to find the info.	5	1	2	User Testing
2	Lack of clarity in the identification of some sections.	3	2	3	User Testing
3	The same information can be found in different sections, which means that there are too many different paths to get there.	5	1	3	User Testing
4	In the absence of the back button users tended to click on the home button.	5	1	5	User Testing
5	Before completing the task the user need to explore several sections to find the right one to achieve the goal.	4	1	4	User Testing
6	Important content is not properly highlighted on the homepage. For example, "Chi siamo" and "Link utili" are in the footer and not in the foreground as you would expect.	4	1	5	Expert Usability Review

2.2.3. Post testing phase: Identification of usability problems (2/4)

Id error	Error	Frequency	Impact	Persistence	Phase of detection
7	One of the fundamental parts of the site, such as the chat, is not working, the user cannot complete the task..	2	4	1	Expert Usability Review
8	Lot of information and long texts, the user does not have the possibility to filter or order them in any way.	5	1	3	Expert Usability Review
9	There is neither a navigational feedback on any page that shows the user the path made to reach the current section, nor the "back" button that allows you to return to the previous page.	5	4	5	Expert Usability Review
10	In the navbar, the first two sections " <u>Io e...</u> " and "Chiedi Avete chiesto" are, in terms of content and information, the core of the site. However, the titles of the sections are not clear and intuitive enough regarding their content .	3	2	2	Expert Usability Review
11	An element that may confuse the user is the fact that download windows do not open in new tabs but replace the page the user was visiting.	1	1	1	Expert Usability Review

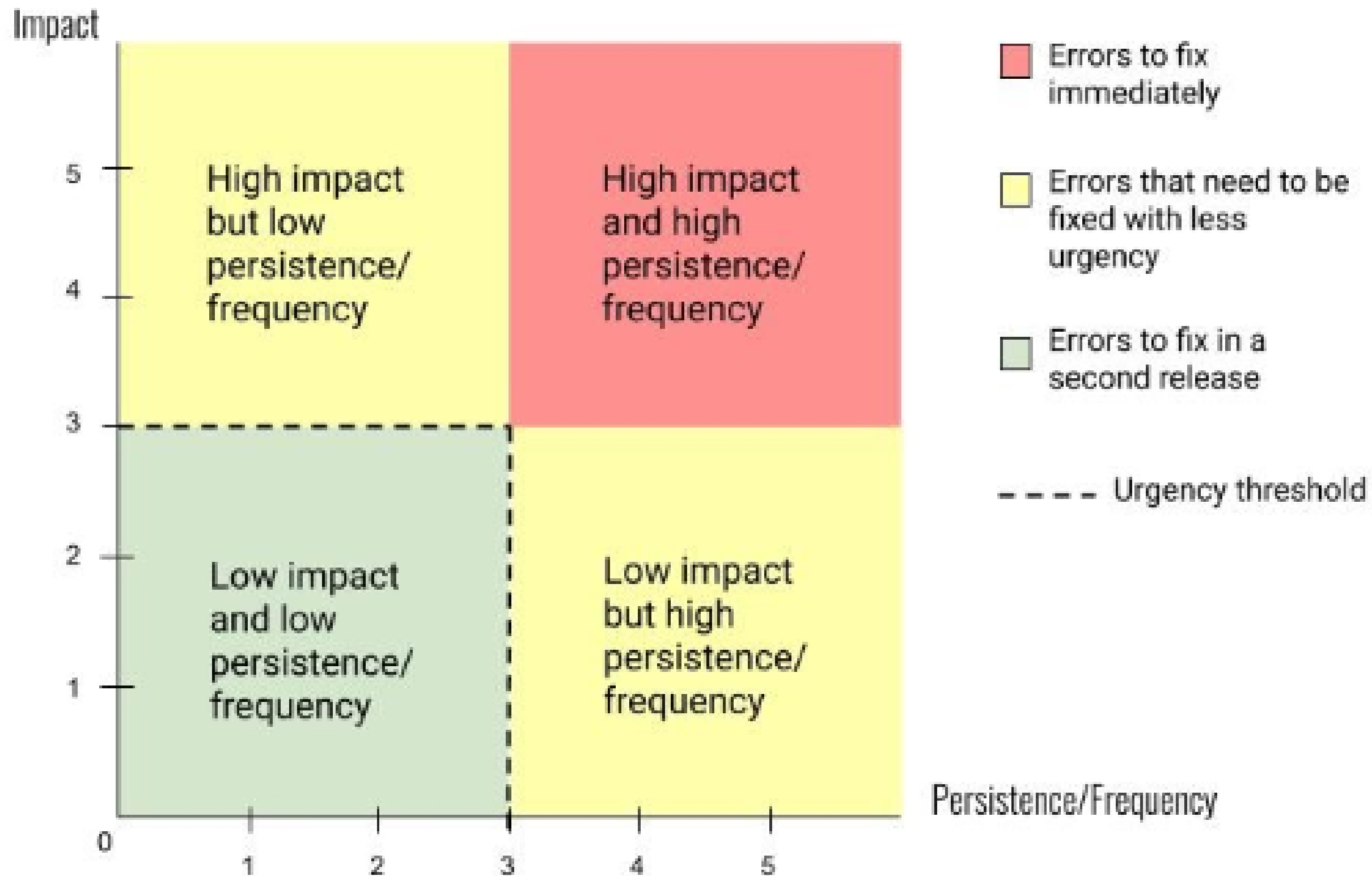
2.2.3. Post testing phase: Identification of usability problems (3/4)

Id error	Error	Frequency	Impact	Persistence	Phase of detection
12	There is not a good balance between text, white spaces and colour (it is not used to give breath to very long texts). This has a negative effect on the user's concentration .	4	1	3	Expert Usability Review
13	The links and buttons do not provide an indication of whether they have already been clicked, an element that would be useful for navigation.	1	1	5	Expert Usability Review
14	The results provided by the search function are not sorted according to any relevance criteria, moreover it is not possible to sort and filter them and it is not possible to decide how many results to see per page. The search option is not precise about the number of results encountered.	2	5	1	Expert Usability Review

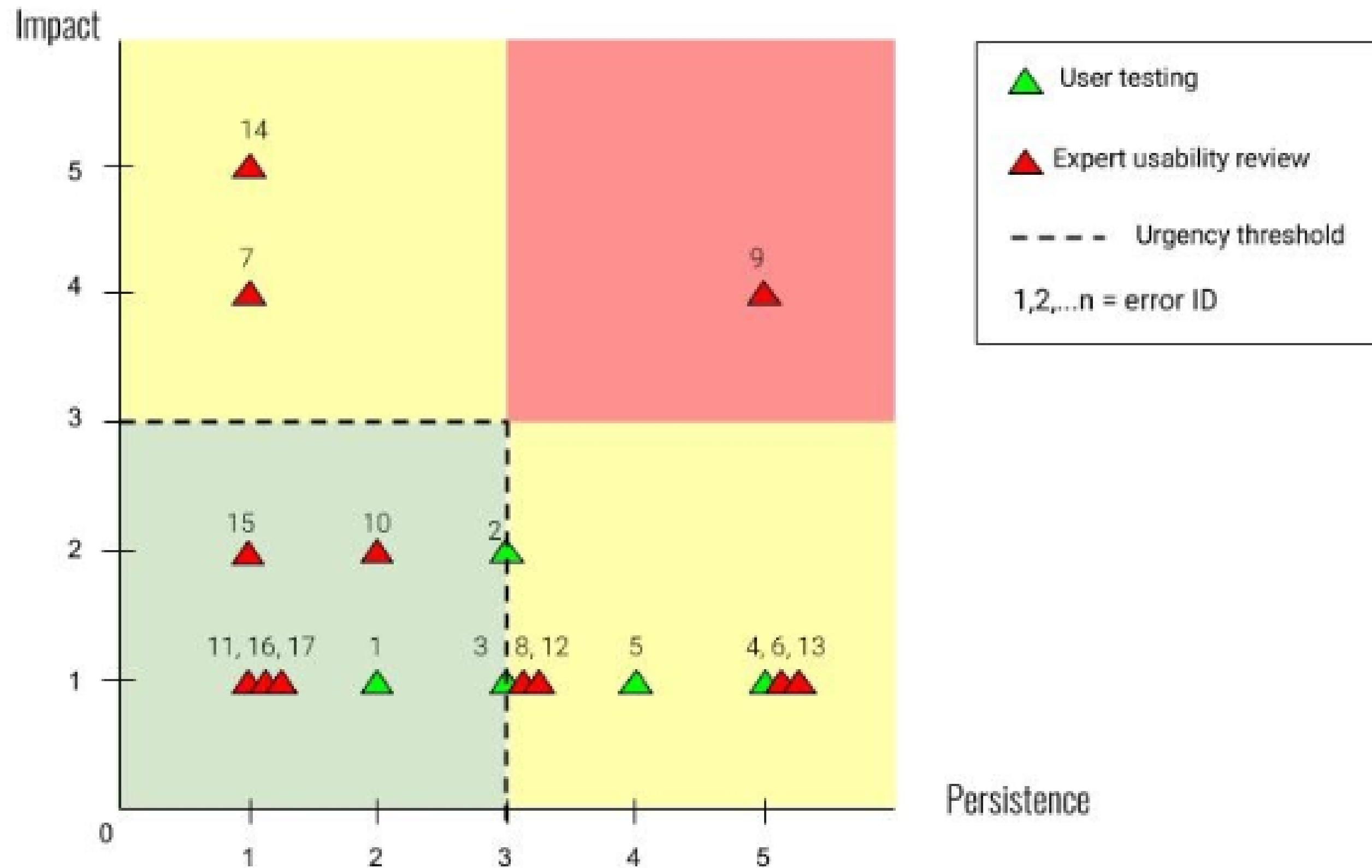
2.2.3. Post testing phase: Identification of usability problems (4/4)

Id error	Error	Frequency	Impact	Persistence	Phase of detection
15	In the "Forum" section there are two search tools, one of which do not work.	1	2	1	Expert Usability Review
16	The search tool is not visible because not clearly labelled. The search can not be updated and can not be saved. In the results the keyword is not evident so it is not easy to identify useful results.	1	1	1	Expert Usability Review
17	In case of erroneous actions the messages provided by the website are not sufficient for the user to understand what he/she did wrong or what actions are missing to complete the task.	2	1	1	Expert Usability Review

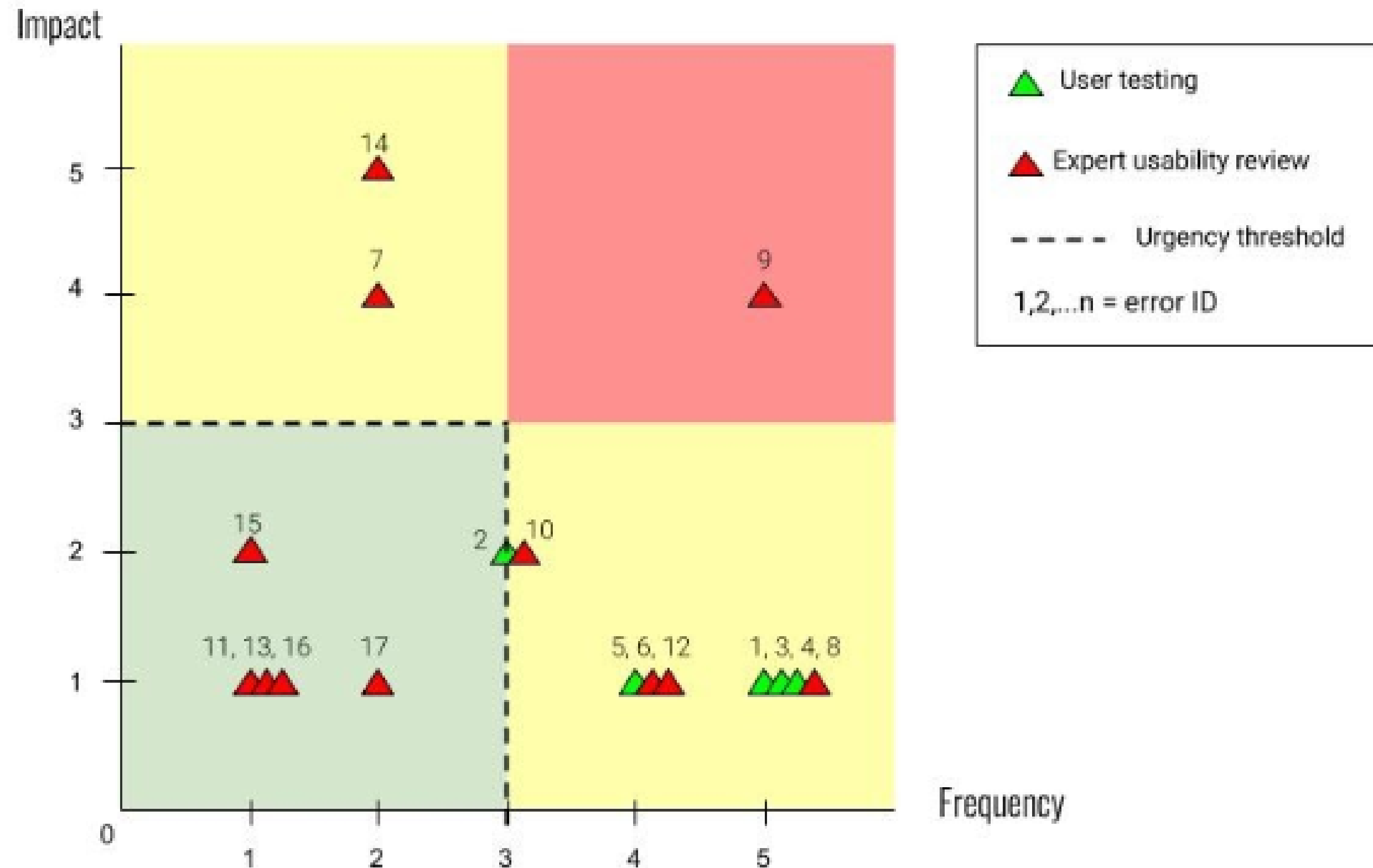
2.2.4 Curves of urgency



2.2.4 Curves of urgency: Impact vs Persistence



2.2.4 Curves of urgency: Impact vs Frequency



2.2.3. Post testing phase: conclusions

Homogeneity in the considerations of the expert usability review and the testing phase:

- strength: reliability and scientificity of the content.
- weakness: navigation of the site that not intuitive, especially in the need for a rapid search for content of primary importance.
- consequence: users are not motivated to use the website and would prefer to call the center instead.
- possible solutions:
 - reorganize homepage and contents
 - more explanatory and clear labels

→ the site could gain more value and be exploited more by young people in Parma.





3. FEASIBILITY STUDY

3.1 CONTEXT OF USE:

Identification of users

Tasks

Technical, environmental and
cultural constraints

3.2 SCENARIOS: 6 scenarios

3.3 PERSONAS: 6 personas



3.1 CONTEXT OF USE

Identification of users	14 - 19 years old people + educators living in the territory of Bologna.
Identification of tasks	<ul style="list-style-type: none">● Find general information about <i>Spazio Giovani</i>.● Find information related to contraception, birth, abortion, gynaecology, oncology, infertility, nutrition, psychology and relational problems, sexology, adoption (FAQ section and Servizi section).● Use the chat that allows you to interact with a bot, Bolo, which provides quick links to sections that might be of interest to the user.● Consult the page of experts working in <i>Spazio Giovani</i> of the territory of Bologna.-● Consult <i>Spazio Giovani Adulti</i> section.● Access to the personal area to book online an appointment for a medical examination and manage previous bookings.● Book online an appointment without registering to the personal area.

3.1 CONTEXT OF USE

Identification of technical and environmental constraints	<ul style="list-style-type: none">● Internet connection is essential for its consultation.● Service available for both desktop and mobile devices.● Access to the consultation does not require any authentication.● Only the access to the <i>personal area</i> requires authentication.
Identification of cultural constraints	<p>According to the data analyzed most of the users are Italian. However, 13,8% of the users are of foreign origin. English translation is available.</p>

3.2/3.3 SCENARIOS AND PERSONAS (1/6)



Camilla Marchesini is 15 years old and she is engaged to a guy. She is thinking about her first sexual intercourse. She searches for information on internet about first intercourse and she finds out the website of Spazio Giovani Bologna. She finds some information that seems reliable and she compares it with the personal experiences of her best friends.

3.2/3.3 SCENARIOS AND PERSONAS (2/6)



Alessandra Marini is 19 years old and she moved to Bologna a few months ago to start her first year at the Faculty of Engineering. During a party she meets Giacomo, with whom she has an unprotected intercourse. A few weeks later she realizes she missed her period and the first pregnancy test is positive. Worried about the pregnancy and the consequences on the university career that has just begun, she immediately decides that the best choice is the voluntary interruption of pregnancy. She is suddenly reminded of the counselling centre she had already contacted in the past for psychological assistance and, in panic, decides to call the dedicated number.

3.2/3.3 SCENARIOS AND PERSONAS (3/6)



Jasmine Boudouma is an 18-year-old Moroccan girl who has been engaged for a year to Diego, a 19-year-old from Bologna, hiding it from his family. Jasmine's family is very conservative and would never approve of her relationship with Diego. Jasmine does not want to give up her relationship, but she wants to keep the eventuality of pregnancy as far away as possible, since it would complicate her situation considerably. She searches for information about the contraceptive pill and on the Spazio Giovani website she finds out that it is possible to use it free of charge for residents in Emilia Romagna up to the age of 26. She books a gynecological visit for the free pill. Then, she deletes the chronology after the search: it would not be the first time that her father checks her computer.

3.2/3.3 SCENARIOS AND PERSONAS (4/6)



Paola Moro is 45 years old, a state employee and Giulia's mother, 14 years old. She is a single mother and very apprehensive: she is worried because her daughter has not yet had her first menstrual cycle and would like to book a check-up for her. She decides to take advantage of the service offered by the counselling centre as a free service and uses the site to book the gynecological visit. Two weeks later, Paola and Giulia go to Spazio Giovani in Via Sant'Isaia for the booked gynecological examination.

3.2/3.3 SCENARIOS AND PERSONAS (5/6)



Marco Rota

Anno di nascita: 1968

Nazionalità: Italiana

Residenza: Casalecchio
di Reno

Professione: Professore

Professor Marco Rota is 52 years old and teaches sociology and psychology at the Liceo delle Scienze Umane Laura Bassi. Marco decided to dedicate a few hours of his lessons to illustrate some useful information to the students about the services offered by Spazio Giovani. In the past years the professor has collaborated with Spazio Giovani for some projects and decided to visit their website to give a lecture to his 4th grade class on the services offered by Spazio Giovani.

3.2/3.3 SCENARIOS AND PERSONAS (6/6)



Thomas Costantini is 17 years old and he is a student of Marco Rota. He listened carefully to the teacher's lecture on the services of the counselling centre. When he comes home, he hears his parents arguing for the hundredth time. Thomas' family situation is complex: his father has recently lost his job and he often argues violently with his mother. This stressful situation makes him suffer a lot, but he has never talked about it with his friends. He had never thought about seeing a psychologist before, especially because he didn't think he could afford one. After lunch, Thomas immediately searches for the site the professor talked about in class. He needs to talk to someone immediately about what happened and has been going on in the house for some time and starts talking to an expert. The expert suggests that he should book a visit; Thomas will go to the counselling centre three days later.



4. DESIGN PROPOSAL

4.1 INFORMATION ARCHITECTURE

4.2 CAO=S MODEL

4.3 INTERACTION DESIGN

4.4 BLUEPRINT

4.5 WIREFRAMES



4.1 INFORMATION ARCHITECTURE (1/2)

The site has been designed as ancillary site of the main site of the [Servizio Sanitario Regionale - Emilia Romagna Azienda Unità Sanitaria Locale \(AUSL\) of Bologna](#).

GOAL Motivate the users and provide them the information in a clear, direct and rapid way.

TOP DOWN APPROACH Every part of the system is progressively refined by adding more details from the earlier design stages.

CHOICES Common sense principles + results of Expert Usability Review and User Testing analysis on Spazio Giovani Parma website.

OTHER WAYS TO REACH THE WEBSITE

- [Emilia Romagna Salute Guida ai Servizi](#), in the Assistenza e consulenza per giovani area, under the Bologna section.
- [Family counselling centres in Emilia Romagna](#), in the relevant section "Spazio Giovani", which already lists links to the Spazio Giovani of Rimini and Parma websites.
- It can be reached independently from the main site, by making a query with keywords in the search bar of the browser.

4.1 INFORMATION ARCHITECTURE (2/2)

TOP DOWN APPROACH - DEFINITION OF ELEMENTS

NAVBAR

- Site logo with home page link
- Servizi
- FAQ (Frequently Asked Questions)
- Conosci gli esperti
- Spazio Giovani Adulti
- News & Avvisi
- Barra di ricerca
- Area personale (Accedi/Registrati)
- Select language (Italiano/English)

HOMEPAGE

Four cards containing the following information:

- Chi siamo
- Dove siamo, Orari & Contatti
- Servizi
- Prenota una visita

ADDITIONAL ELEMENT

Chat

FOOTER

- Privacy
- Cookies
- Copyright
- Logo of Servizio Sanitario Regionale - Emilia Romagna with link to the site
- Links to social pages (Facebook and Youtube)



4.2 CAO=S MODEL: CONCEPTS

The concepts that operations manipulate are:

CATEGORY: container of information related to certain topics.

INFORMATION: content proposed to the user.

RESULTS: represent the answers to the user's searches.

ACCOUNT: space for users of the platform for the management of personal information and reservations.

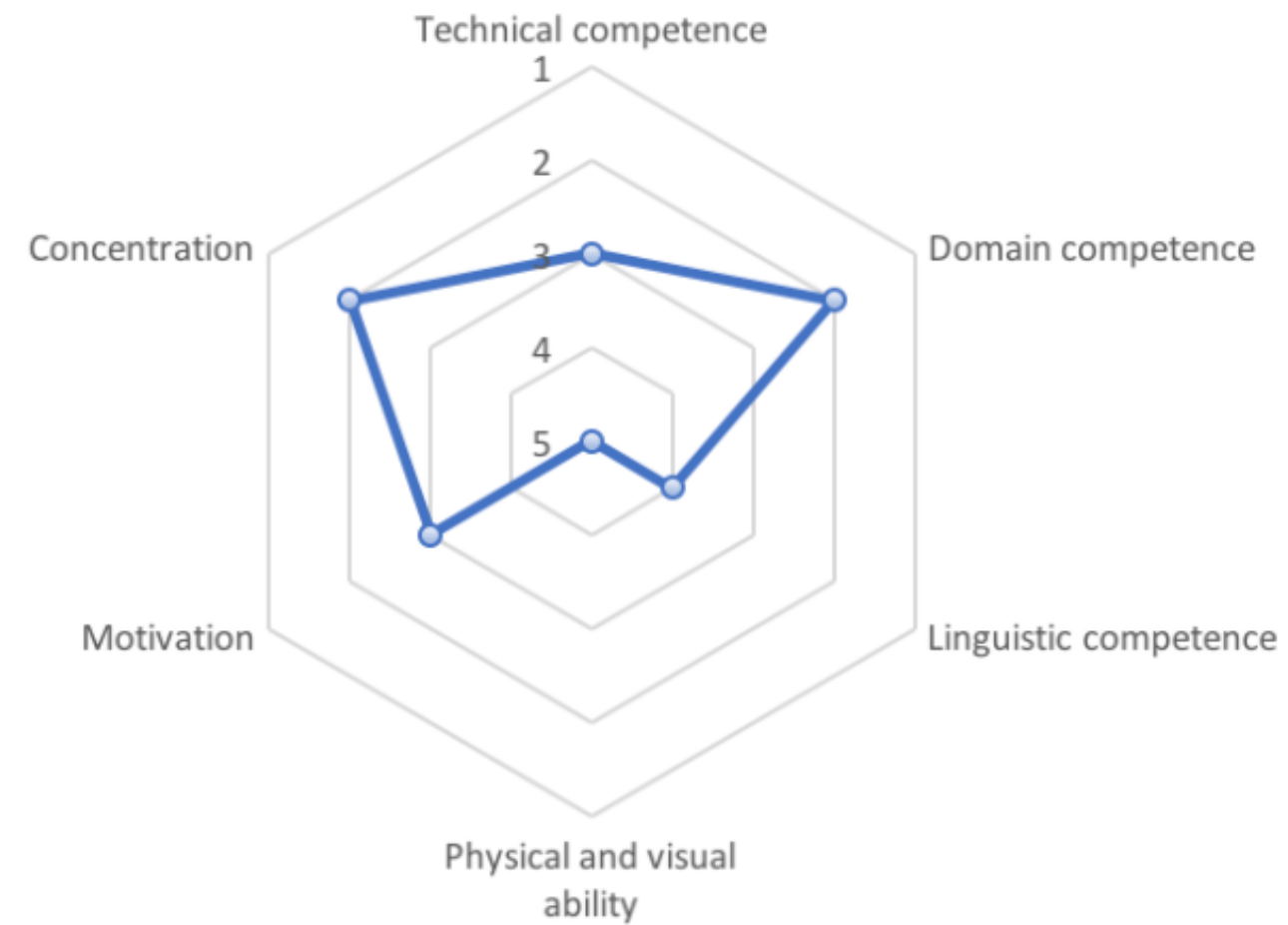
APPOINTMENT: request for a visit that the user makes to Spazio Giovani Bologna.

MESSAGE SERVICE: information request system through chat.

4.2 CAO=S MODEL: ACTORS (1/6)

CAMILLA MARCHESINI

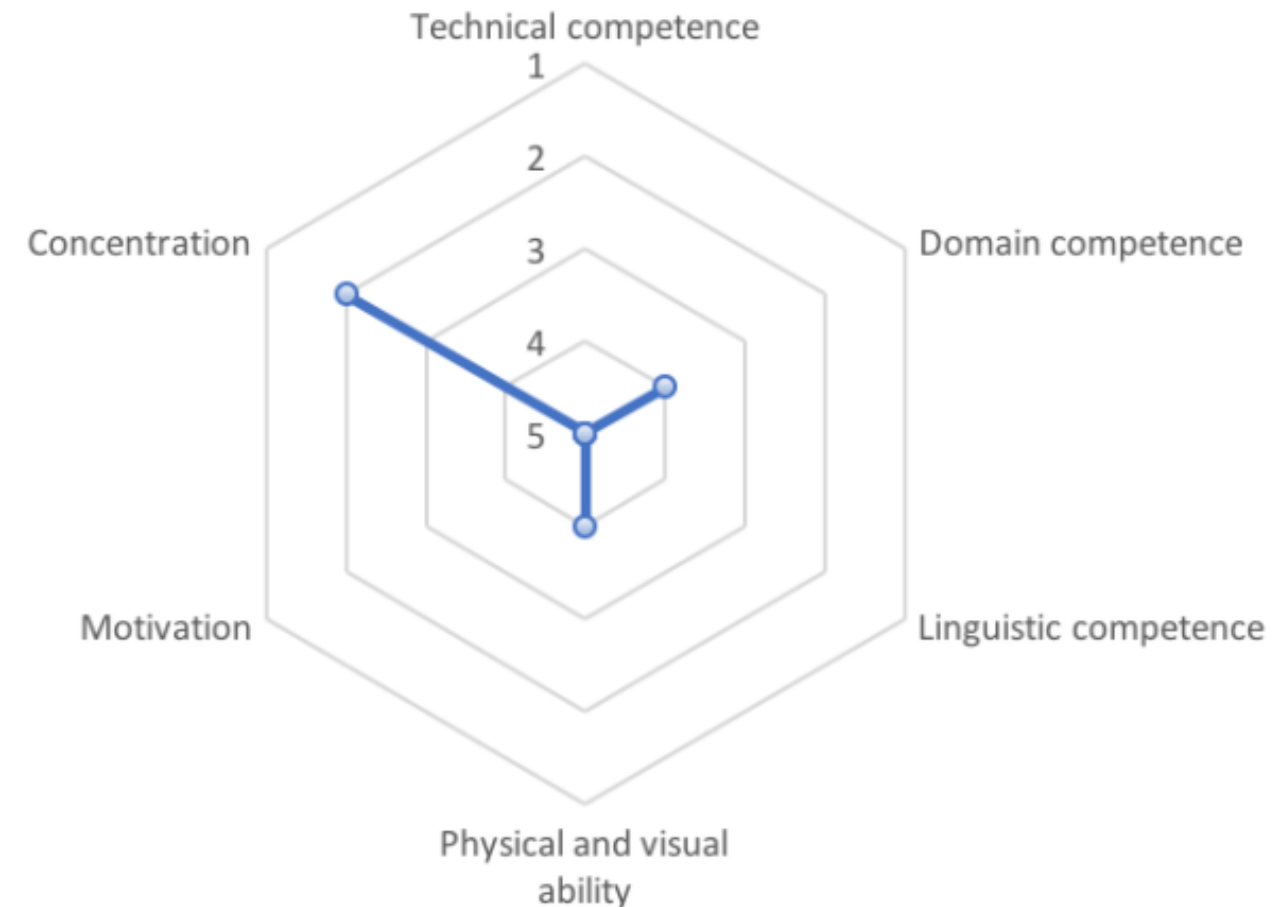
- Technical competence: 3
- Domain competence: 2
- Language competence: 4
- Physical and visual ability :5
- Motivation: 3
- Concentration: 2



4.2 CAO=S MODEL: ACTORS (2/6)

ALESSANDRA MARINI

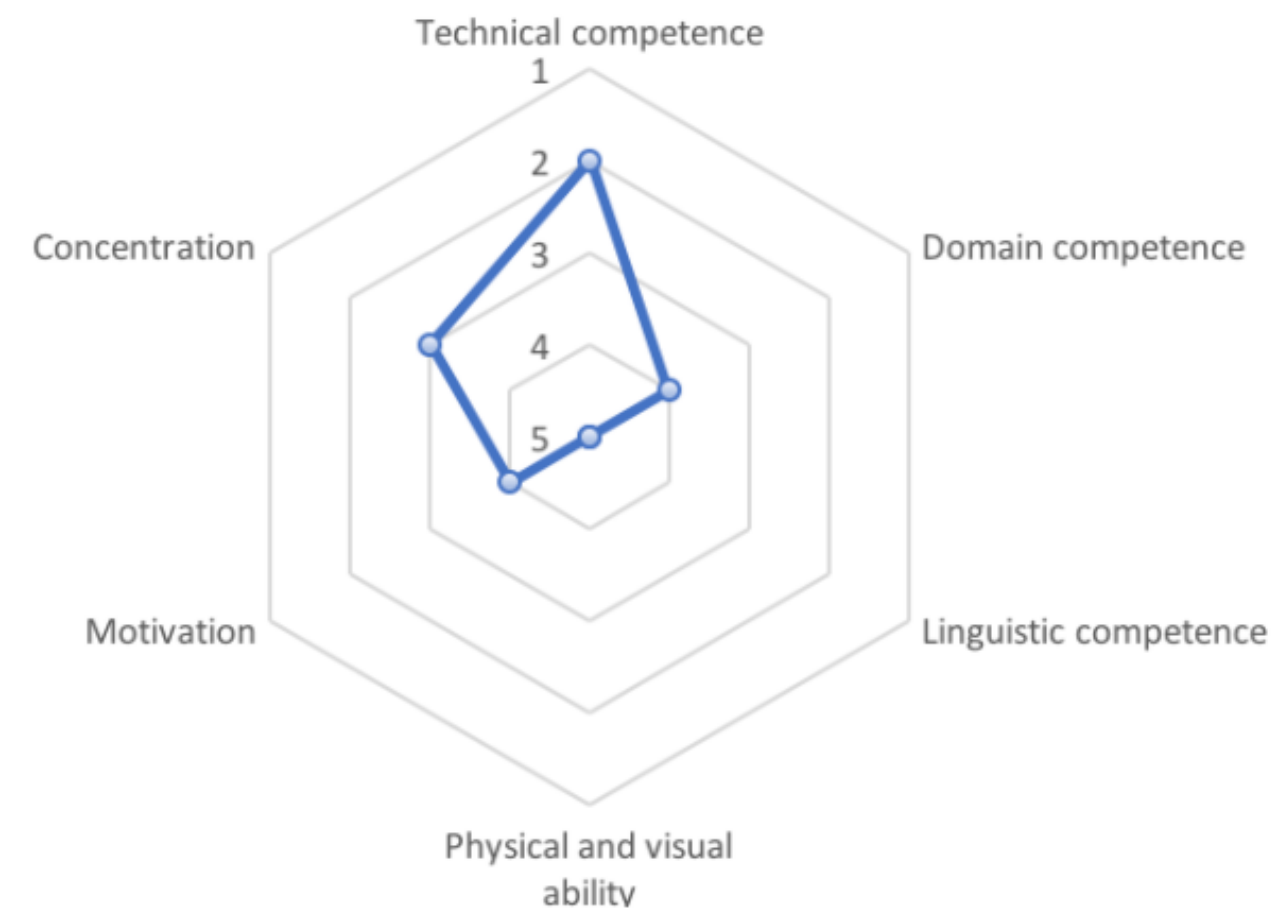
- Technical competence: 5
- Domain competence: 4
- Language competence: 5
- Physical and visual ability: 4
- Motivation: 5
- Concentration: 2



4.2 CAO=S MODEL: ACTORS (3/6)

JASMINE BOUDOUMA

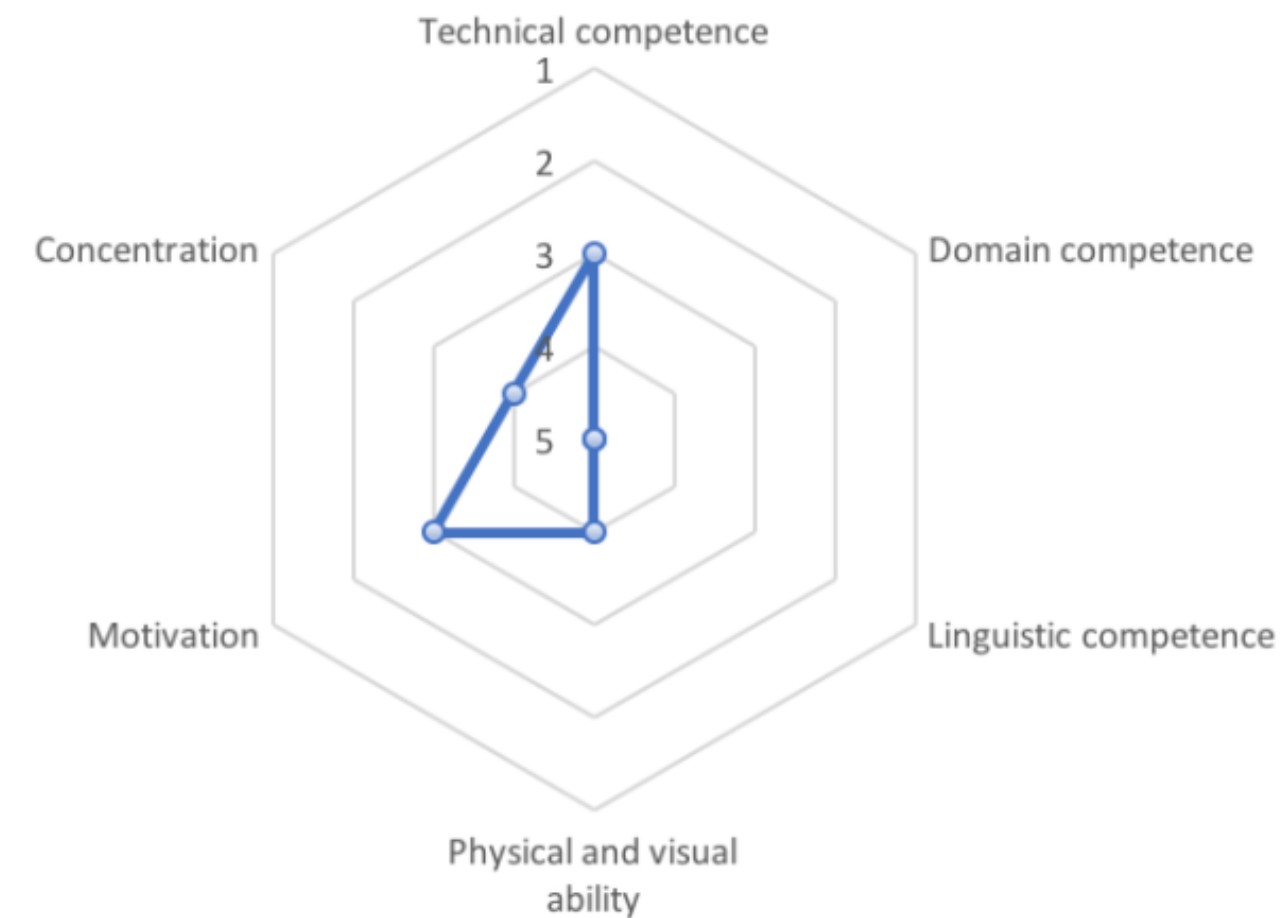
- Technical competence: 2
- Domain competence: 4
- Language competence: 5
- Physical and visual ability: 5
- Motivation: 4
- Concentration: 3



4.2 CAO=S MODEL: ACTORS (4/6)

PAOLA MORO

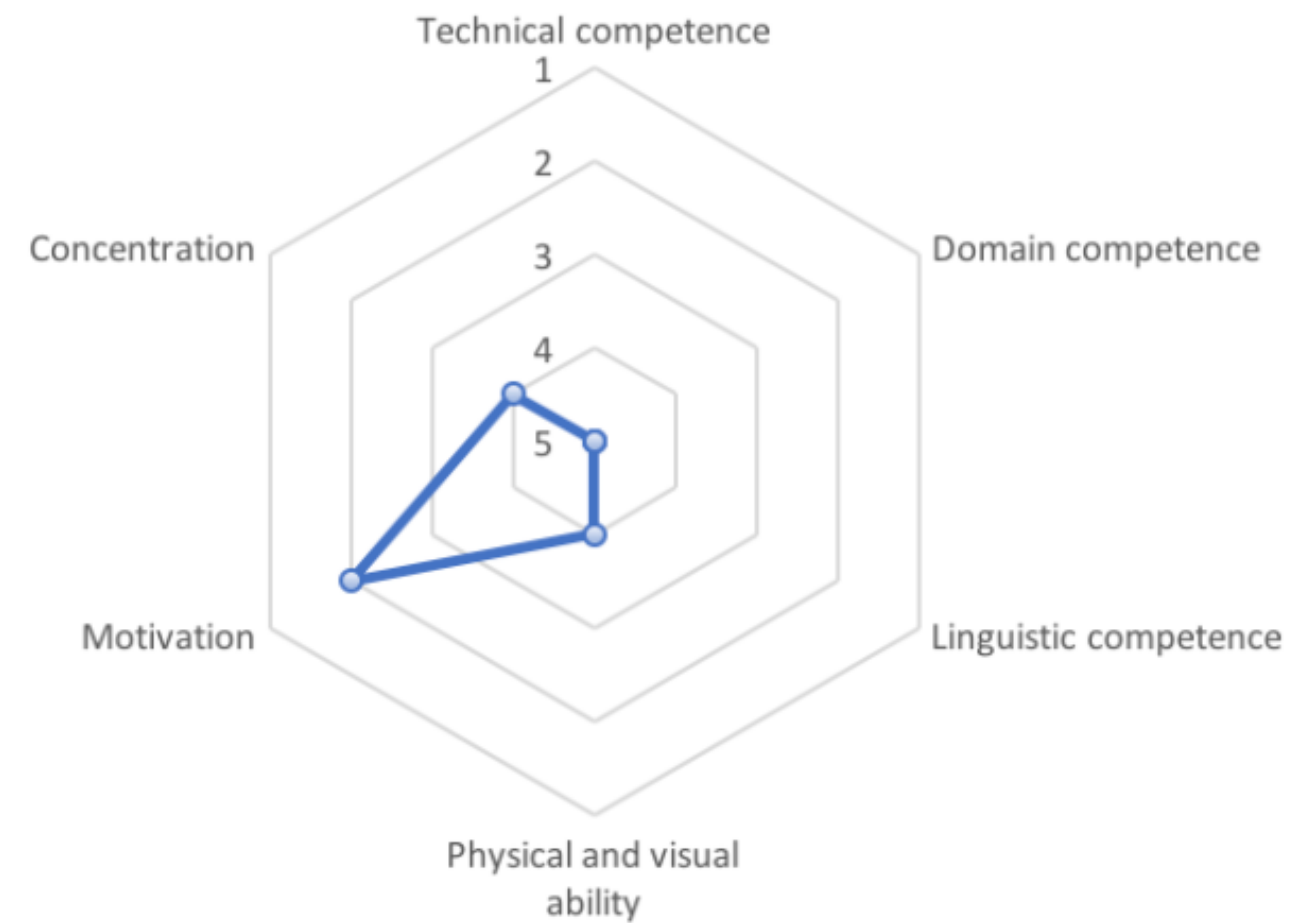
- Technical competence: 3
- Domain competence: 5
- Language competence: 5
- Physical and visual ability: 4
- Motivation: 3
- Concentration: 4



4.2 CAO=S MODEL: ACTORS (5/6)

MARCO ROTA

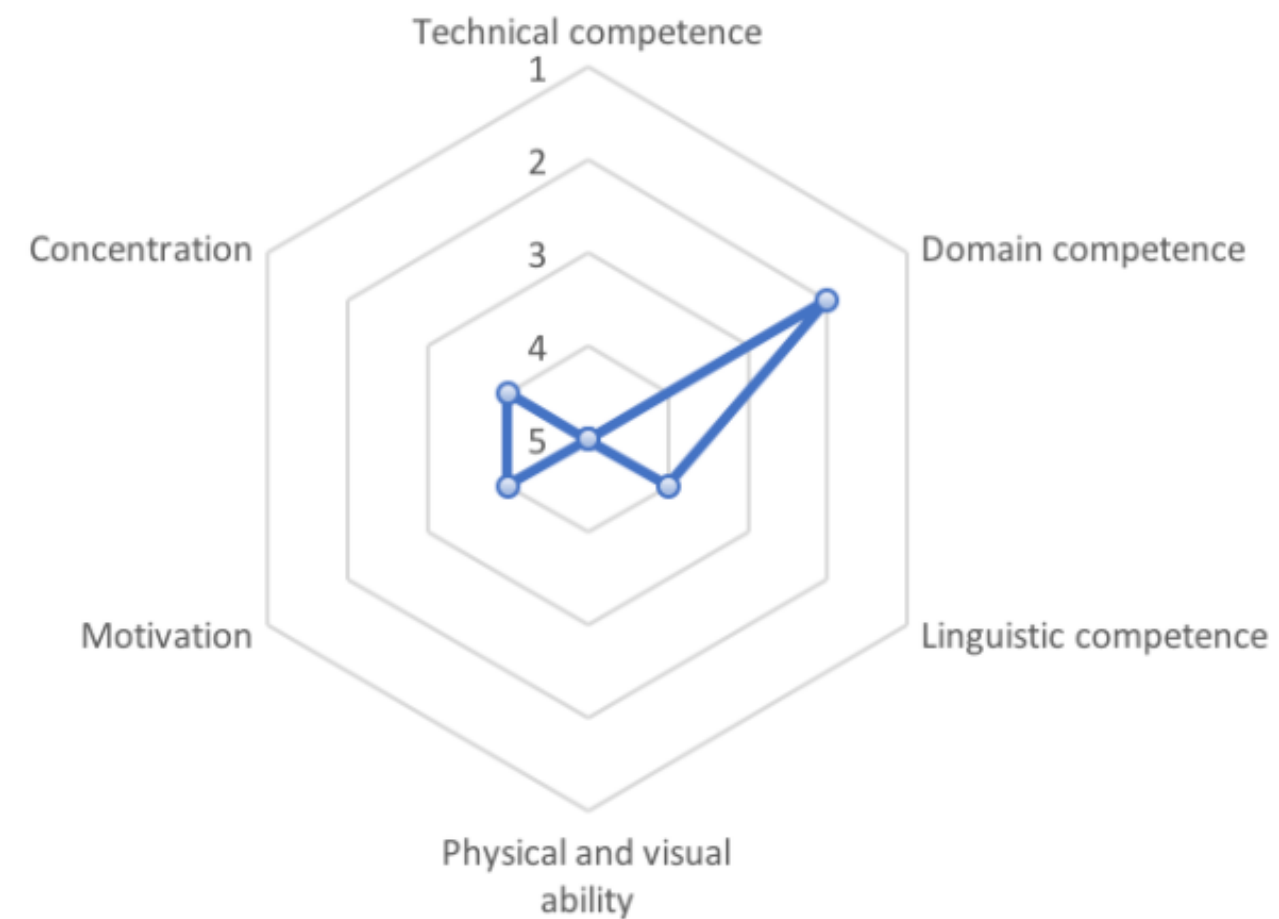
- Technical competence: 5
- Domain competence: 5
- Language competence: 5
- Physical and visual ability: 4
- Motivation: 2
- Concentration: 4



4.2 CAO=S MODEL: ACTORS (6/6)

THOMAS COSTANTINI

- Technical competence: 5
- Domain competence: 2
- Language competence: 4
- Physical and visual ability: 5
- Motivation: 4
- Concentration: 4





4.2 CAO=S MODEL: OPERATIONS

In this section are reported the types of operations that each actor can perform on the concepts described above.

The operations according to CAO=S are of four types:

CREATION: Account, Appointment, Message service

VIEW: Category, Information, Results, Account, Appointment, Message service

UPDATE: Account, Appointment, Results

REMOVE: Account, Appointment

4.2 CAO=S MODEL: STRUCTURE

USER	Category	Information	Results	Account	Appointment	Message service
Creation	/	/	/	Manual insertion of personal data in the appropriate records.	The user can book a visit manually in the section provided.	Use of chat to request information.
View	Displayed on the homepage.	Displayed inside the categories.	Displayed after the user search.	The user can see the information about his/her account.	The user can see the information related to the reservation made.	The user can see the messages sent and the replies received.
Update	/	/	The user can change the parameters to obtain different results.	The user can change and update his/her personal information.	The user can change the reservation made.	/
Remove	/	/	/	The user delete some personal information or permanently remove his/her account.	The user can cancel his/her reservation.	/

4.3 INTERACTION DESIGN

It is a design framework of the overall system. It clarifies unambiguously:

- what services are available;
- a clear hierarchical organization of the functions of the system.

4.4 BLUEPRINT

We decided to structure the blueprint of *Spazio Giovani Bologna* starting from the host website that is the AUSL of Bologna in order to give an idea of the connection between the two websites.

We used *diagrams.net* to create the blueprint.

4.5 WIREFRAMES

For the creation of the wireframes we used Balsamiq. We created wireframes for both desktop and mobile versions, which, considering the age of the target user, are fundamental.



5. EVALUATION OF THE DESIGN

5.1 INSPECTION OF THE PROJECT

The 10 heuristics of Nielsen & Molich

5.2 USER TESTING

Testing phase

Task analysis

Identification of usability problems



5.1 INSPECTION OF THE PROJECT (1/4)

1- VISIBILITY OF SYSTEM STATUS

- Feedback when the user books a visit, through a wheel that turns to indicate the processing phase of the request;
- Feedback provided by links that change color after being clicked.

2- MATCH BETWEEN SYSTEM AND THE REAL WORLD

- Contents presented both in Italian and English to allow users to select their preferred language. By default the site is presented in Italian and there is the possibility to select the other language if necessary.
- Since the contents are scientific, we have decided to insert synonyms when there are technical terms not frequently used in the common language.
- As for the labels of the sections, we have chosen to use a clear, known and generally shared labels.

5.1 INSPECTION OF THE PROJECT (2/4)

3- USER CONTROL AND FREEDOM

- Opportunity to revert to the previous page/section both through the back button and through the breadcrumbs always present in each page on the top left.
- In some sections, the user has the possibility to cancel the action started at any time.
- The user has the possibility to cancel the booked visit both through the personal area and through the email received at the time of booking confirmation.

4- CONSISTENCY AND STANDARDS

- Internal and external consistency throughout the system.
- Settings (gear) and Logout (outward arrow) symbols meet the standards shared by the UX community.
- The system features allow the user to quickly familiarize with the site and predict its functions.

5.1 INSPECTION OF THE PROJECT (3/4)

5 - ERROR PREVENTION

- Prevent the user from erroneously performing irreversible actions by providing feedback whenever such an action is present.
- On each page there is the back button.
- In the sections where an action can be performed, the user always has the possibility to cancel the action performed.

6 - RECOGNITION RATHER THAN RECALL

- The user does not need to remember fundamental information for the navigation of the website: it is always visible in the screens where necessary.
- Minimization of the amount of information to remember

7 - FLEXIBILITY AND EFFICIENCY OF USE

- The system allows users to speed up the process of booking visits once the user has registered with his/her personal account.
- Users will not have to repeat their personal information each time they access the system.

5.1 INSPECTION OF THE PROJECT (4/4)

8 - AESTHETIC AND MINIMALIST DESIGN

- No decorative elements
- Focus on clear and linear management of the fundamental information that the user searches for on the site.

9 - RECOGNITION RATHER THAN RECALL

- The system provides error messages: errors are described in natural language and not through the use of error codes.
- Search function: if no search results are available or if there is a spelling error, the system provides similar alternatives to the search carried out.

10 - HELP AND DOCUMENTATION

- Help to the user: chat (always present in each section) that allows to redirect the user to the content he/she needs

5.2 USER TESTING

Test type: Discount Usability Testing

Platform: Zoom → due to COVID-19

Test methodology: Thinking Aloud

Final assessment questionnaire: System Usability Scale (SUS)

List of tasks to test:

1. Search for the telephone number and address of Spazio Giovani of San Lazzaro.
2. Register to the personal area.
3. Book a psychological visit/consultancy for educators from your personal area and after having booked it change the date.
4. Search for the most recent news on Spazio Giovani of Casalecchio

5.2.1 Testing phase

Tester	Short bio	Justification of users selection
Pilot tester - Fabio	Fabio, 21 years old, was born in Rimini	check the efficiency of the organization of the test. he can not be included in the test because he does not fit the target audience.
Tester A - Livia	Livia, 18 years old, born in Bologna. She attends the fourth year at the Liceo Scientifico Manzoni in Bologna. She loves getting out with her friends and she is a fan of YouTube videos.	She represents the target user we would like to reach with the <i>Spazio Giovani Bologna</i> website. She is an open-minded person, willing to talk about what are called <i>taboo topics</i> , such as sex, gender and drugs.
Tester B - Alessandra	Alessandra, 34 years old, born in Cesena. Educator for the "Treno della Memoria" (trips in Poland for 16-18 years old guys). Teacher of paddles for young people.	Alessandra has been selected as a tester given her work in close contact with young people. We believe that she might be interested in finding information about topics that could help the guys.
Tester C - Giorgia	Giorgia, 15 years old, born in Pesaro. She attends the first year at Liceo linguistico T. Mamiani di Pesaro. She has never heard about about counselling centre.	Giorgia has been chosen as a tester since she is included in the lower age range of our target users. We thought it could be interesting to see how a very young person navigate on a website that deals with unknown topics.

5.2.1 Testing phase: Tester 0

Tester 0	Successful task completion	Critical errors	Non-critical errors	Time on task
Task 1	Task completed			0.12 min
Task 2	Task completed			0.15 min
Task 3	Task completed			0.25 min
Task 4	Task completed			0.17 min

- The test was useful to make sure that questions were consistent, the team was prepared and the duration of the test was reasonable.
- His results were not taking into consideration in the general testing results BUT his suggestions did:
IMPROVEMENTS ON THE CHAT.

SUS final score: 77.5

5.2.1 Testing phase: Tester A

Livia	Successful task completion	Critical errors	Non-critical errors	Time on task
Task 1	Task completed		She initially hesitated focusing on the first element of the navbar then she found the right section.	1.13 min
Task 2	Task completed			0.31 min
Task 3	Task completed			0.46 + 0.16 min
Task 4	Task completed			0.17

- Livia was really satisfied with the navigation and structure of the site.
- She initially did not pay enough attention on the central body of the page: we thought of coloring the cards to attract more attention, in order to test it on the next user

SUS final score: 97.5

5.2.1 Testing phase: Tester B

Alessandra	Successful task completion	Critical errors	Non-critical errors	Time on task
Task 1	Task completed			0.29 min
Task 2	Task completed			0.20 min
Task 3	Task completed			0.36 + 0.06 min
Task 4	Task completed			0.28 min

- Alessandra focused her attention directly on the cards of the main section of the home page
- She had no problem completing the tasks, and was able to quickly find the correct sections where to complete the task.
- She suggested to clarify the content of the FAQ section.

SUS final score: 92.5

5.2.1 Testing phase: Tester C

Giorgia	Successful task completion	Critical errors	Non-critical errors	Time on task
Task 1	Task completed			0.42 min
Task 2	Task completed		She was able to complete the task by registering not from the navbar (Area Personale > registrati) but from the card dedicated to booking a visit by clicking on "Prenota una visita dal tuo account".	1.05 min
Task 3	Task completed			0.18 + 0.13 min
Task 4	Task completed		Before reaching the correct section, the user clicked on "Chi siamo" and "Servizi". After the third re-reading of the task the user turned to the navbar selecting the correct section and subsection.	1.52 min

- Giorgia was able to complete all the tasks but she had difficulties with tasks n° 2 and n° 4.
- Lack of focus in the navbar
- The different origin of the user compared to the territory of Bologna has affected the familiarity of the places included in the tasks.
- Claims to be overall satisfied with the experience of browsing the prototype site.

SUS final score: 80.

5.2.2 Post testing phase: Task Analysis

Task 1: Search for the telephone number and address of Spazio Giovani of San Lazzaro. All users were able to complete this task in a short time. However, user A did not immediately focus her attention on the body of the homepage where the task solution was actually located. This led us to change the color of the cards to attract more attention. This change actually brought a better navigation of the site.

Task 2: Register to the personal area. All users have completed the task. However, user C has completed the task anomaly in relation to the path predicted by the team and the path followed by the other users.

Task 3: Book a psychological visit/consultancy for educators from your personal area and after having booked it change the date. The task was completed by all users quickly. We believe that this aspect is indicative of a good design that helps navigation.

Task 4: Search for the most recent news on Spazio Giovani of Casalecchio. All users were able to complete this task. However, user C completed this task more slowly than the other users because in our opinion she focused more on the cards than the navbar where the solution was actually located.

5.2.2 Post testing phase: Indetification of usability problems

Errors	Impact	Phase of detection
Absence of back button	1	Evaluation of the design
Absence of cancel button	2	Evaluation of the design
Absence of logout button from personal area	2	Evaluation of the design
Absence of loading feedback	1	Evaluation of the design
Lack of attractiveness of cards present in the homepage	1	User Testing (task execution)
Lack of identification of the chat interlocutor	1	User Testing (extra task navigation)

6. CONCLUSIONS AND RECOMMENDATIONS.



Easiness of use + intuitive navigation + scientificity of contents

MOTIVATION

We believe we have successfully achieved our goal.

- Test results provided high values (>80) in relation to the SUS questionnaire.
- Users declared to be overall satisfied, further affirming that if there really was such a site they would use it frequently.
- With the suggestions provided by the users, we have improved the prototype as we follow the instructions provided by the Discount Usability Test, in order to provide an improved version to the next tester.

All the activities in which we can think about an improvement are strictly related to the health emergency situation in which we find ourselves at the moment (May 2020):

- We could have tested more users if we had been able to go outside the schools.
- We could have tested only users resident/inhabitants of the territory of Bologna.
- Having been able to test only the wireframes related to large screens, it would be interesting to test also the wireframes for mobile.



Thank you for your attention



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