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Project Management Report

Usability & User Experience design project

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Introduction

This report is the final result of a user experience design project on My Secret Case, the leading Italian online sexy shop, whose philosophy is to break down taboos on sex, conceive sexual pleasure as one of the important elements that make up personal care and providing a sex education service (blogs, sexologists, psychologists).

The company spreads a message of inclusiveness by committing itself to welcoming and positively enhancing the diversity of the individual. The aim of the project is to rethink the company's target, or rather to make this concept of inclusiveness explicit by expanding it to a target indirectly touched in this idea of inclusion but not through explicit message or content: elderly women who are going through menopause.

This report is therefore the testimony of our research process. It contains the design and user tests carried out for the creation of:

- a. an ancillary section to the My Secret Case website;
- b. a "filtering" system that is added to those already present (e.g. for epileptic subjects, ADHD, visually impaired) and which wants to bring together the fundamental elements to make the experience of the new target complete and decisive.

Audience research has made it clear that women find it more difficult to live out their sexuality once they get through the menopause. They assist in the onset of various symptoms such as vaginal dryness, weight gain and consequent lowering of self-esteem, decreased desire. Some flee the idea of a line of products designed for the rediscovery or reconfirmation of their physical-sexual needs because they are intimidated; others are intrigued; others have been using sex toys for some time without any problems in this regard.

In any case, the great majority are positive with respect to the subject and this leads us to think that a right communication strategy can attract what is a majority slice of society in Italy, that of older women / third-age couples.

My Secret Case is a leading company in its sector in Italy, it works effectively and embraces a philosophy that we fully share. We therefore believe that expanding the target audience explicitly, speaking directly to women and couples of a certain age, can be an extremely intelligent move, first of all because it is about 43% of the total Italian

population, secondly because the benefits of healthy sexual activity are numerous and in our opinion should not be limited by age.

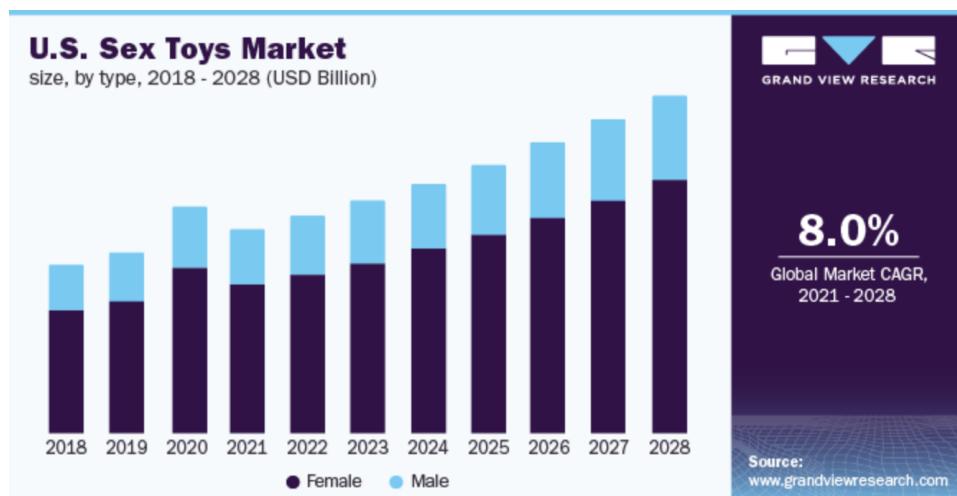
1. Ethnographic research

1.1 Segmentation of target users

Since it was clear for us to which specific target audience we wanted to expand and make explicit the use of the services offered by the MySecretCase platform, the fundamental thing was to understand the habits of this target with respect to the topic, that is, what were the ideas, the knowledge and the predisposition regarding sex toys and sexuality related to menopause. This type of survey helped us considerably to understand, within the predefined target, what type of segmentation existed, making us realize that the product offered by the company and above all the way in which to offer it through the website must adapt to different facets of users.

The starting point for carrying out our research was in any case a macro-investigation on the subject, that is to understand the sex toys market, if it is growing and for which age groups, which is the preferred channel for purchase one and so on.

According to *Grand View Research*, the global sex toys market size was valued at USD 33.64 billion in 2020 and it is expected to expand at a compound annual growth rate (CAGR) of 8.04% from 2021 to 2028. Increased spending capacities and improved standard of living in developing economies are the factors expected to drive market growth during the forecast period. Novelty adult products are gaining a mainstream position in the sexual wellness industry with their growing popularity amongst all age groups.



The global market and the specific case of MySecretCase then saw a notable growth during the pandemic period, growing respectively by 26% and 40% during the lockdown period. The ongoing COVID-19 pandemic has in fact forced people worldwide to stay indoors or self-isolate at homes and practice self-care, including self-pleasure. This has led to an increase in the sales of sex toys, especially in developed and developing markets.

COVID19 sex toys market impact: 26% growth from 2019 to 2020

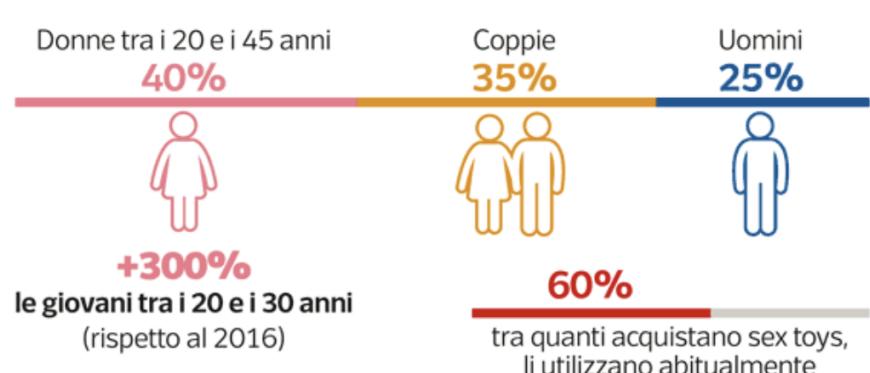
Pandemic Impact	Post COVID Outlook
The sex toys market witnessed an increment of over 26% from 2019 to 2020, as per the earlier projection the market was expected to be nearly USD 29 billion in 2020	In 2021 the market will witness a slight decline of nearly 9% as compared to 2020, before resuming its growth trajectory by mid-2022
Total and partial lockdowns have resulted in increased sexual activities among individuals and in turn the usage of sex toys such as vibrators, dildos, and massage products	Improving regulatory structure in Asian countries, increasing acceptance of sex toys as a medium of increasing satisfaction among married couples will continue to boost the growth of sex toys in the coming few years
Favorable regulatory changes regarding LGBTQ+ relationships has resulted in a larger use of these products including, penile rings, anal toys, and vibrators	

Also according to *Grand View Research*, when it comes to user type insights, The female segment dominated the market with a revenue share of around 60% in 2020. Surpassing the taboo and social stigma, a wide range of women's products are easily available in the market. Products such as vibrators, dildos, and anal beads are displayed directly in the wellness department.

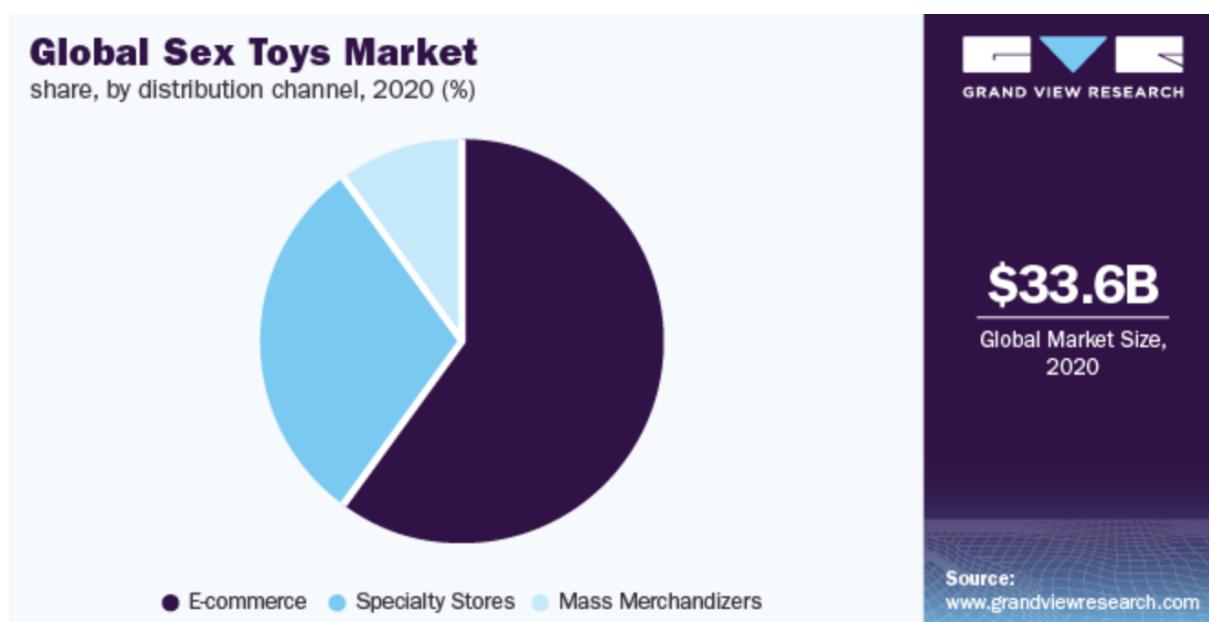
In Italy, as revealed by a Mysecretcase market survey, 60% of those who buy sex toys use them regularly. 25% are men, 35% couples, 40% women between 20 and 45 years old. Young people between 20 and 30 years of age use them the most (data for 2017, + 300% compared to 2016). Now (2019 -2020), the market appears to be definitely expanding in all age groups: the percentage of seniors who approach sex toys

has grown in the last year - 30% in the 36-50 range and almost 10% over 50 - even if millennials are still the most frequent shoppers (62%).

Chi li usa



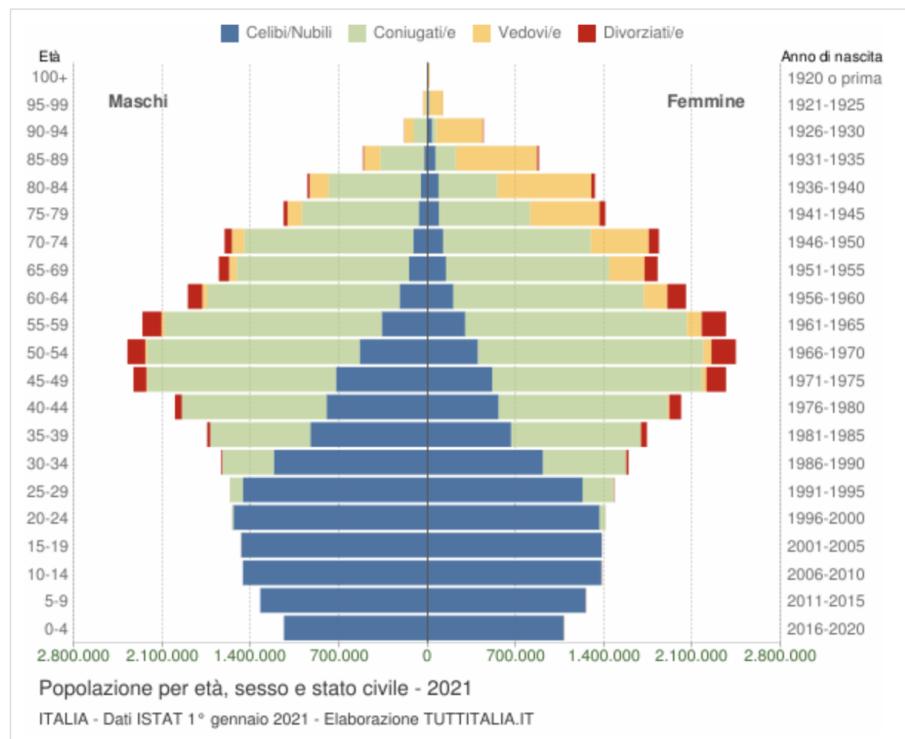
Regarding insights on favorite distribution channels, E-commerce platforms and online retailers held the largest market share of more than 60% in 2020. Increasing penetration of the internet and the availability of numerous sex toys on e-commerce platforms are driving the growth of the segment. The anonymity maintained in product delivery is an added advantage for customers opting for online purchases over brick and mortar adult stores. Based on the distribution channel, the global sex toys market is segmented into E-commerce, specialty stores, and mass merchandisers.



In summary, what we have been able to extrapolate from the data both globally and at the Italian level (which interests us most) is that:

- the sex toys market is growing sharply;
- Millennials are the most frequent users, but sex toys are gradually expanding to all age groups;
- women are the most frequent users;
- during the pandemic the use of sex toys was increasingly understood as a form of self-care accentuated by forced isolation;
- the preferred distribution channel is e-commerce;

These data are relevant above all if we look at the statistics with respect to the age of the Italian population. As we can see by analyzing and observing *Istat* data for 2021, the situation of the Italian population is stationary, with an estimate of 5 elderly people for each child. This means that targeting and stimulating the approach of the more mature population to the use of sex toys can be as risky as it is fruitful. In fact, the target our research wants to address, women who face the menopause, is the most important slice of the age pyramid in Italy.



Età	Celibi /Nubili	Coniugati /e	Vedovi /e	Divorziati /e	Maschi	Femmine	Totale	
							%	
50-54	914.381	3.545.692	84.717	331.914	2.404.144 49,3%	2.472.560 50,7%	4.876.704	8,2%
55-59	626.453	3.439.662	147.926	323.450	2.213.008 48,8%	2.324.483 51,2%	4.537.491	7,6%
60-64	411.731	3.006.985	230.387	244.247	1.874.922 48,2%	2.018.428 51,8%	3.893.350	6,5%
65-69	286.807	2.663.542	348.074	172.591	1.652.740 47,6%	1.818.274 52,4%	3.471.014	5,8%
70-74	225.584	2.429.874	544.701	124.201	1.555.306 46,8%	1.769.054 53,2%	3.324.360	5,6%
75-79	170.300	1.701.425	701.606	70.682	1.181.233 44,7%	1.462.780 55,3%	2.644.013	4,4%
80-84	140.403	1.162.123	888.727	40.283	930.787 41,7%	1.300.749 58,3%	2.231.536	3,7%

1.2 User Research

User research is the methodical study of target users. This includes their needs and weaknesses, so as to outline as clearly and sharply as possible the needs of the users that the design must reflect. There are various methods of exposing design problems and opportunities, finding information crucial to the design process. The main purpose is to collect data from users, which can be of two different types:

1. Qualitative research = ethnographic field studies and interviews to build a deep understanding of how users behave (it requires great attention, as it involves the collection of not numerical data but opinions);
2. Quantitative research = decidedly more structured method, example on all surveys that are used to collect measurable data and verify the hypotheses developed by qualitative research. Quantitative data is extremely useful but fails to expose deeper and less mechanical insights.

Usually, the most suitable solution to a design problem can be obtained when applying a combination of quantitative and qualitative research.

Quantitative research: Google form questionnaire

In order to better define the profile of our user target, we have decided to structure a survey capable of returning quantitative data on the habits and needs of the new user target with respect to sexuality and the sex toys topic, with particular attention to the concept of self-care. A particular focus was given to how these topics are linked to the reality of e-commerce, that is, what is the familiarity of the new target audience with the purchase of objects and services online.

Since the topic is particular and very personal if not delicate for some of the users to whom it was addressed (ie menopause often coincides with more or less significant intimate problems), an online questionnaire to be completed remotely was considered the best tool to conduct this research. The questionnaire 'Sex toys e invecchiamento: indagine sui pensieri delle donne rispetto all'argomento.' was created using the Google Form tool and is divided into a user profiling and four sections:

- user profiling (limited to age because the questionnaire was already addressed to a specific user target);

- survey on familiarity with e-commerce services;
- investigation of the attitude towards taking care of oneself and one's body;
- investigation of the relationship with postmenopausal sexuality;
- survey on the knowledge and use of sex toys.

The objectives of the questionnaire are:

1. a better understanding of the target users with respect to the preparation and use of e-commerce services considering that it would be a question of promoting the purchase of objects particularly linked to the intimate sphere;
2. a better understanding of the psychological sphere of users with respect to self-care and body care;
3. a better understanding of the expectations that users place in the sexual sphere and how they live it over the years in order to offer an adequate service;
4. Understand what are the strengths and weaknesses to focus on or not with respect to the specific sex toys topic. In other words, develop a greater understanding of the type of communication to be used to attract and reassure the user.

The questionnaire was created only in Italian since the Mysecretcase site currently operates in Italy and none of the people who were asked to answer needed an English version.

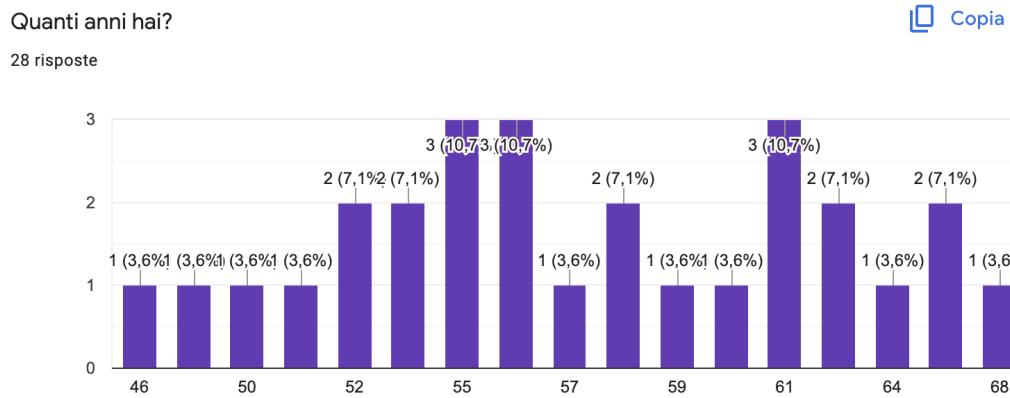
Questionnaire results and interpretation

User profiling

1. Ethnographic profiling

After having disseminated the questionnaire among acquaintances and through an interesting game of word of mouth through highlighted profiles and coinciding with the segmentation of users, it was necessary to analyze and interpret the results obtained.

The questionnaire was answered by 28 people, belonging to a well-defined target but with rather heterogeneous and varied characteristics. Most of them belong to the age group between 50 and 65, with some cases scattered older and younger in this group. All participants are female because explicitly requested by the questionnaire. All of them are going through or have passed menopause.

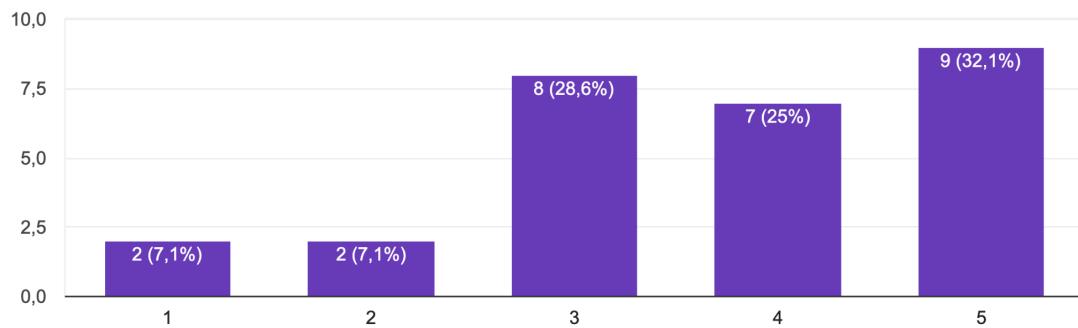


2. Aptitude for technology

The skills that the target users show with respect to technology and specifically the familiarity and ease with online purchases were then investigated. The results were fairly straightforward. The net majority (85.8%) claims to be at least fairly familiar with the use of the internet for shopping. Still a majority, even if slightly lower, claims to feel completely comfortable using the internet to purchase various kinds of goods (objects and / or services). 85.7% are satisfied with their skills in using the web to search, compare and purchase goods and services and a good number feel that their skills allow them to feel safe in making purchases online. Only the 14,3% don't buy on the internet.

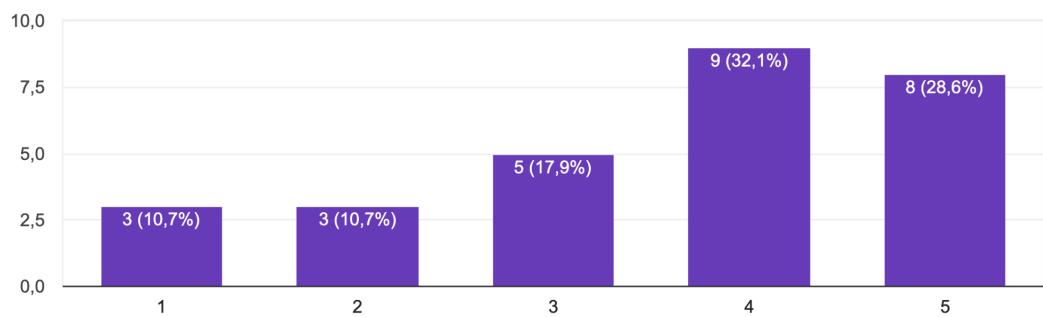
Ho una discreta esperienza nell'utilizzo di internet per effettuare acquisti online.

28 risposte



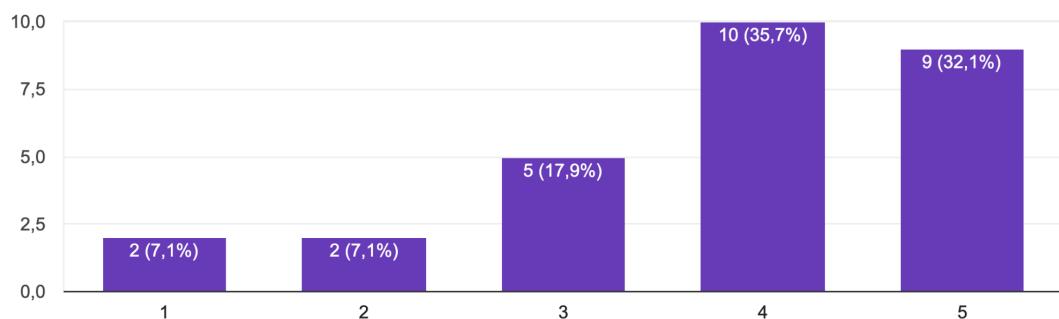
Mi sento completamente a mio agio nell'utilizzare internet per l'acquisto di beni di vario genere (oggetti e/o servizi).

28 risposte



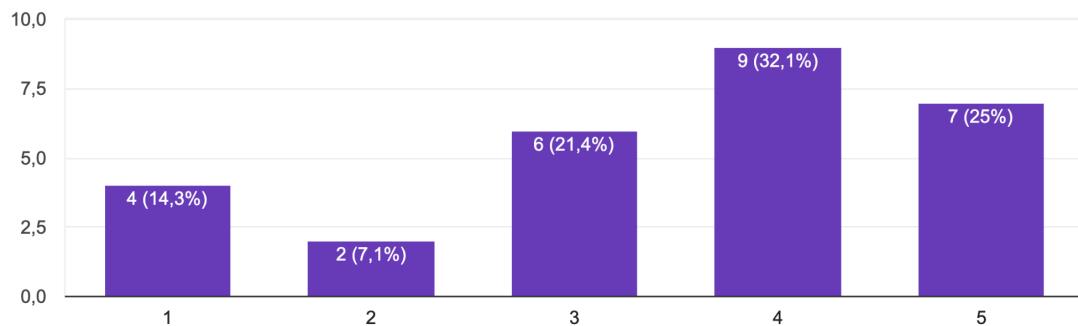
Sono soddisfatta delle mie attuali competenze nell'utilizzo della rete per cercare, confrontare e acquistare beni e servizi.

28 risposte



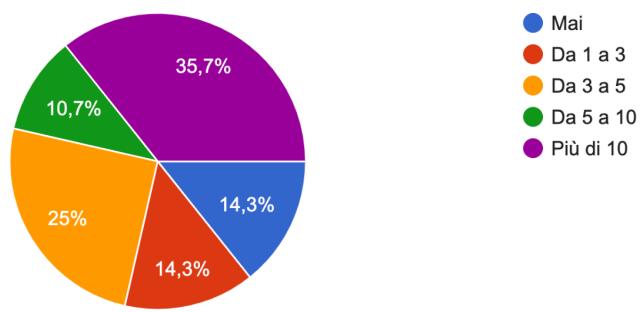
Le mie attuali competenze mi permettono di sentirmi sicura nell'effettuare acquisti online.

28 risposte



Quante volte hai acquistato online negli ultimi sei mesi?

28 risposte



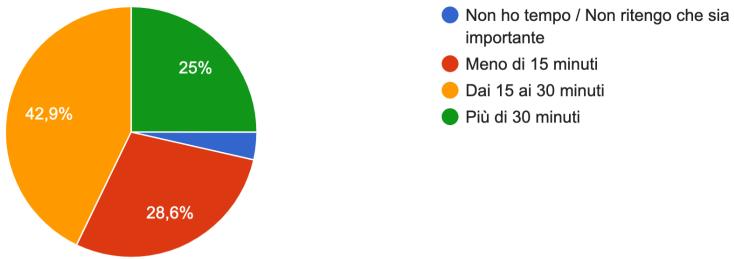
3. Self-care

Here begins the most interesting data. When asked how much time they dedicate to self-care, 28% of the women who answered the questionnaire dedicate less than 15 minutes to something that in a broad sense is attributable to the concept of care, therefore to a hot bath, as well as a beauty routine, as well as sport. 42.9% dedicate between 15 and 30 minutes, still a fairly limited time.

It seems that for many of the women analyzed, self-care is something that takes a back seat in the management of their day. It is probably no coincidence that many women complain of not being able to vent their dissatisfaction effectively and yet consider taking care of their body not essential. The two things seem, at least in part, to be in contrast. More than 60% feel little at ease with respect to the evolution of their body (this feeling could be linked to the consequent neglect of the same).

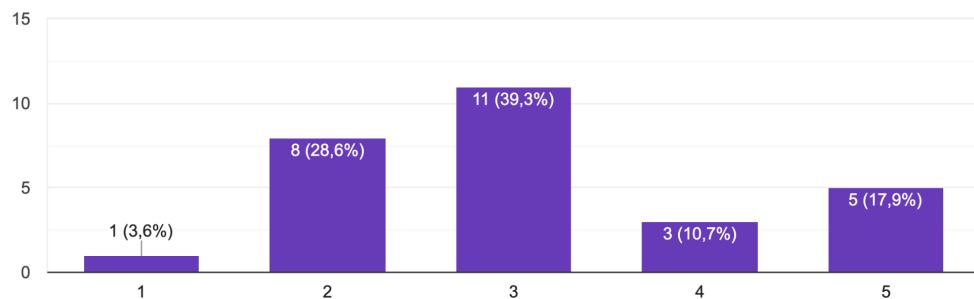
Quanto tempo della tua giornata dedichi esplicitamente alla cura di te? (es. beauty routine, bagno caldo, attività fisica, meditazione...)

28 risposte



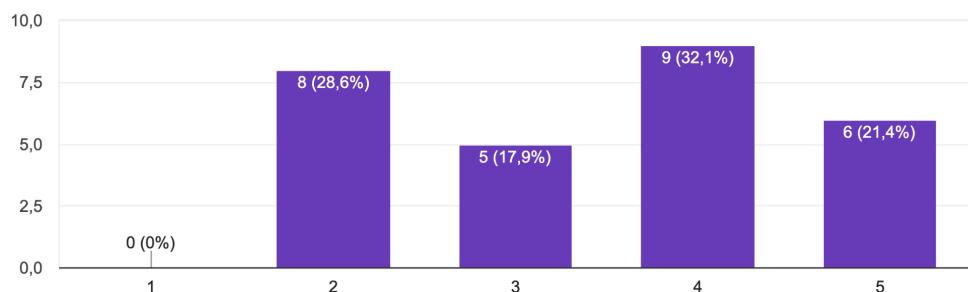
Riesco con facilità a sfogare le mie eventuali frustrazioni/insoddisfazioni.

28 risposte



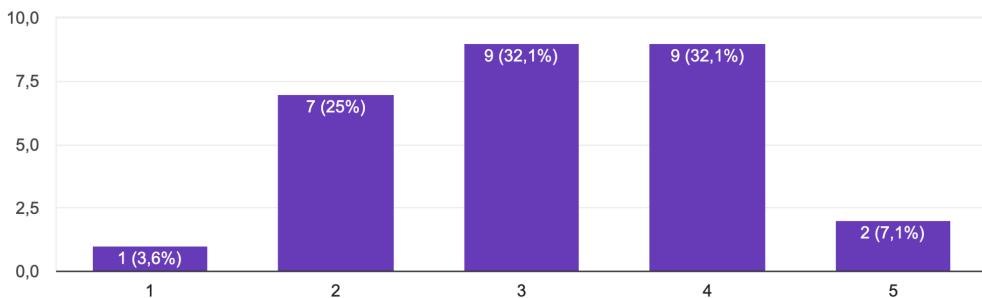
Per me è fondamentale dedicare del tempo alla cura del mio corpo.

28 risposte



Mi sento a mio agio rispetto all'evoluzione e al cambiamento del mio corpo.

28 risposte

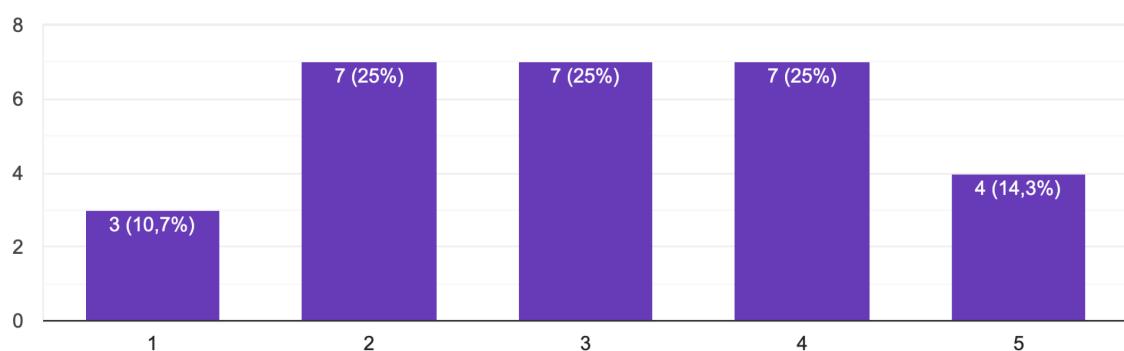


4. Sexuality

When talking about sexuality, there are divergent opinions, often even for a single user and between one question and another involving a strange contradiction. Probably one of the aspects to underline and take into consideration is precisely the inadequacy and difficulty that some women feel with respect to the argument that leads to the generation of contradictions. For 64% of the women surveyed, sexual activity (including masturbation) plays an important role in well-being, but only 35% of women are satisfied with their sexual activity. A full 26% believe it to be completely unsatisfactory. 35.7% have no sexual intercourse of any kind, some have no partner and consequently no sexual activity, 17.9% have a partner but have no intercourse of any kind. However, only 14.3% say they do not experience any kind of sexual drive or desire, 30% experience sexual desire two or three times a month and 18% several times a week. Coming to the most important question, namely whether the women considered have encountered problems after menopause, 42% answered yes, with problems of a varied nature including: depression, anxiety, vaginismus, arthritis and rheumatism and above all many emotional problems of they prefer not to talk about. They then experience vaginal dryness, fatness and decreased desire.

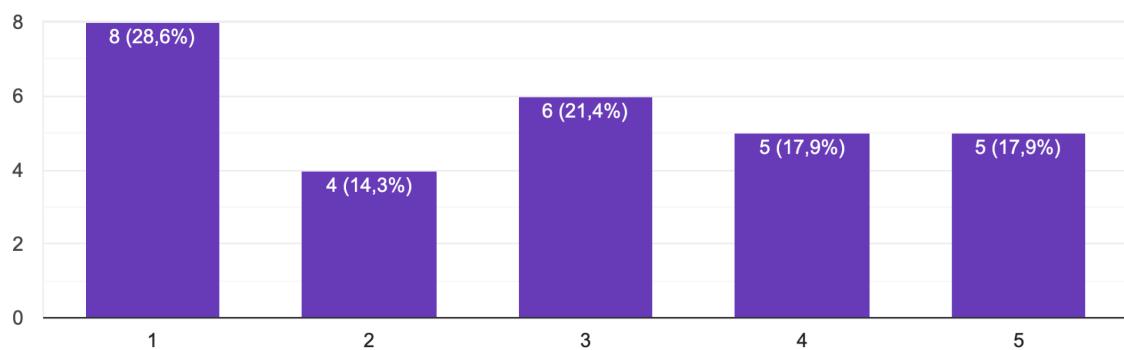
L'attività sessuale (inclusa la masturbazione) è importante per il mio benessere.

28 risposte



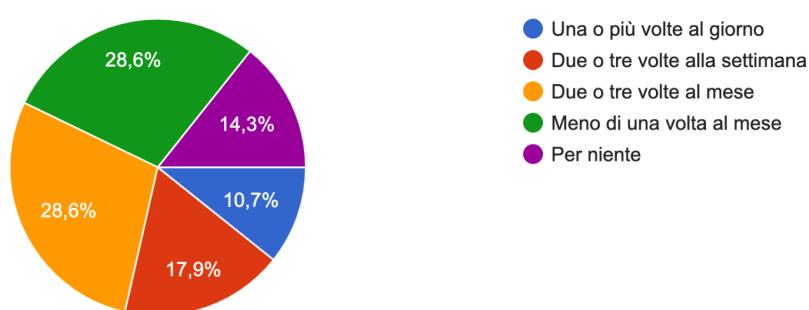
Sono soddisfatta della mia attuale vita sessuale.

28 risposte



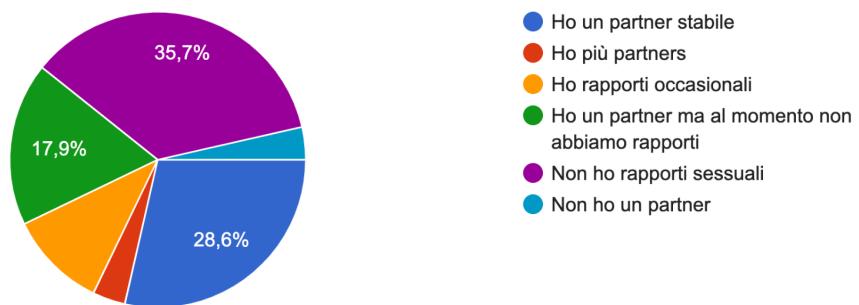
Quanto spesso provi desiderio sessuale? Questo sentimento include il desiderio di avere un'esperienza sessuale (inclusa la masturbazione o ...sso) e sentirsi frustrata per la mancanza di sesso.

28 risposte



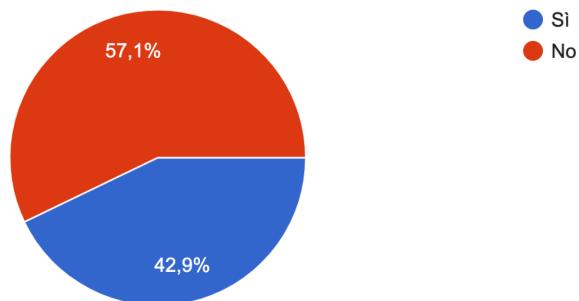
Come descriveresti la tua attuale attività sessuale (escludendo la masturbazione)?

28 risposte



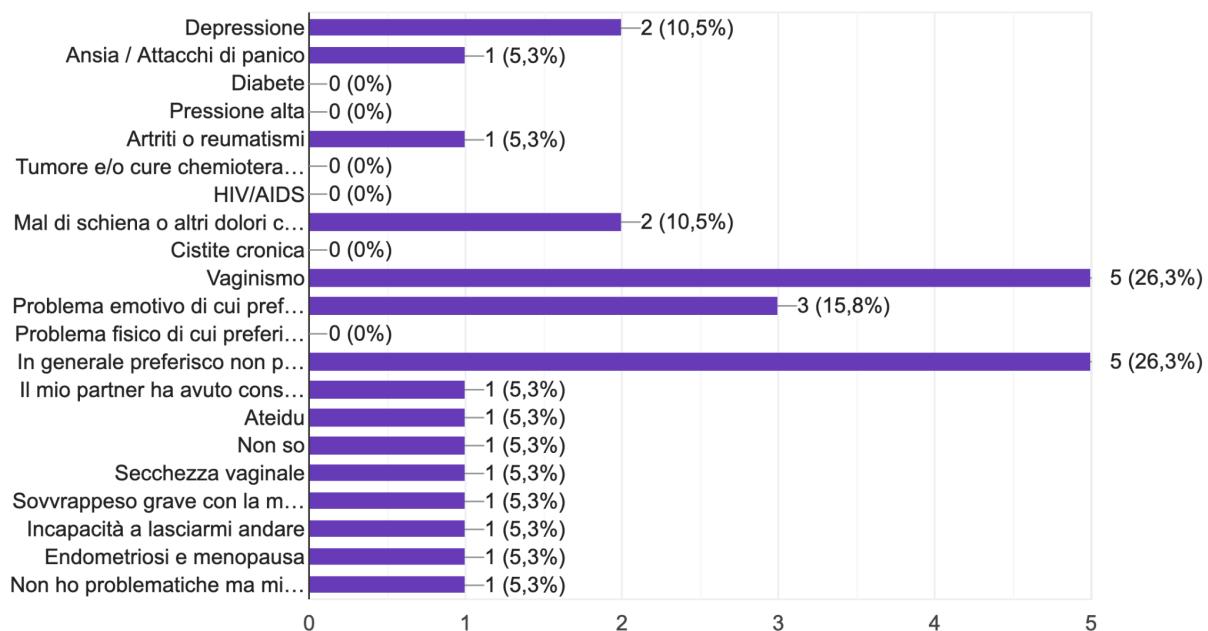
Hai qualche condizione (fisica o emotiva) che interferisce con la tua attività sessuale?

28 risposte



Se hai risposto Sì alla domanda precedente, quali sono le condizioni che interferiscono con la tua attività sessuale?

19 risposte



Hai riscontrato dei cambiamenti successivi alla menopausa che interferiscono in qualche modo con la tua vita sessuale? Se sì, quali?

25 risposte

Secchezza vaginale

Non ancora

Atrofia vaginale impossibilità di curarsi con ormoni causa pregresso K seno

Atrofia, secchezza vaginale

Severo calo del desiderio

no

Sono ingrassata un po'

Calo di interesse per il sesso

Calo del desiderio sessuale

5. Sex Toys

As for the sex toys topic, many women have never inquired about the topic (46%). Only two women place themselves at extremes, one being ignorant of the topic and the other an expert on the subject. 35.7% of the women analyzed instead used or used a sex toy. Almost 30% believe that a sex toy can contribute to personal and couple well-being, 7% believe that the purchase of sex toys is embarrassing but not immoral or harmful. Some women find it an interesting novelty. However, a full 50% is indifferent to the topic, so it is probably to be analyzed that this is basically a distance from the topic. A 57% say they would not buy a sex toy and of this percentage a good 10% fear judgment and the great majority consider it a superfluous purchase, a concept that is probably linked to the short time compared to self-care and ignorance regarding the 'topic.

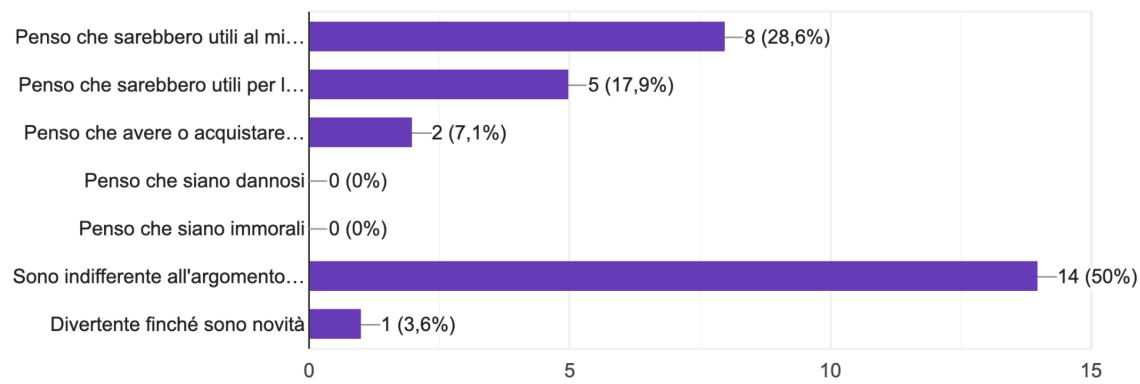
Come descriveresti la tua conoscenza riguardo ai sex toys?

28 risposte



Cosa ne pensi dei sex toys?

28 risposte



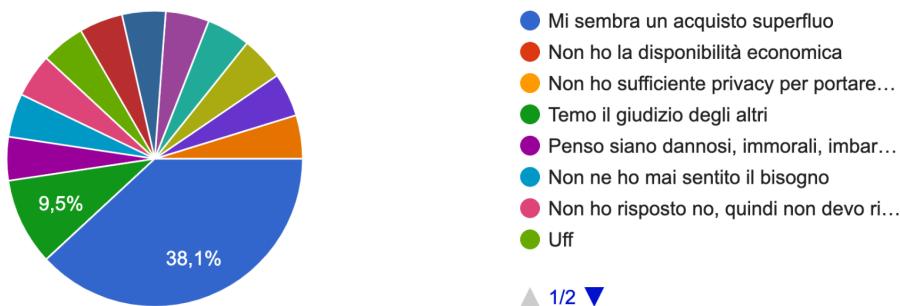
Acquisteresti un sex toy?

28 risposte



Se hai risposto NO alla domanda precedente, quali sono i motivi?

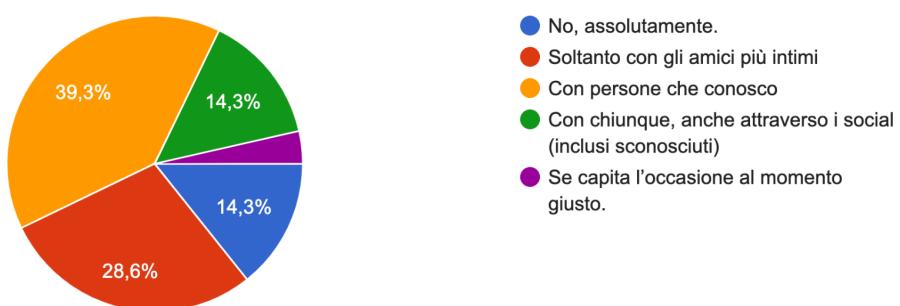
21 risposte



▲ 1/2 ▼

Parleresti o parli dell'argomento sex toys con altre persone?

28 risposte



Qualitative research: interaction with users / direct observation:

In carrying out the qualitative research, instead, an interview was proposed to various users who re-enter as much as possible within the target user but who painted different facets: an openness and a curiosity about the topic, an indifference and a lack of interest in understanding the reasons, a hesitant and possibly attractive user.

A semi-structured interview was developed in order to collect users' opinions in a more flexible format and give users the opportunity to elaborate more on their responses.

Questions	User_1	User_2	User_3	User_4
Iniziali, età, professione, stato coniugale.	FRC, 60, traduttrice, divorziata	AS, 54, Impiegata, Nubile	S.S., 55 anni, OSS, single	Lucia, 68, pensionata, coniugata
Descrivici brevemente la tua vita relazionale/ sessuale in questo momento (e.g. sono sposata da più di 20 anni e ho rapporti regolari con mio marito).	Sono sola da quasi 10 anni. In questi anni ho avuto rapporti abbastanza regolari con uomini più o meno fissi. Attualmente ho rapporti con due uomini, uno abbastanza appagante, l'altro un po' scadente.	Sono Single e non ho rapporti di nessun tipo da circa 10 mesi	sono single e per ora non ho rapporti.	sposata da 47 e non ho rapporti regolari
Quanto spesso ti capita di acquistare online e tramite quali piattaforme? Quali sono le caratteristiche	Acquisto spesso su Amazon che prediligo per velocità, puntualità e affidabilità. Ho acquistato	Acquisto spesso online cercando l'offerta più conveniente in genere su trovaprezzi o altri siti	Raramente, acquisto online perché si risparmia.	acquisto raramente libri

che ti hanno portato a sceglierle rispetto ad altre?	poco fa sul sito citato nell'ultima domanda, My secret case”.	(dipende da cosa) e acquisto in base alla convenienza di prezzo e l'affidabilità del sito (recensioni e altro)		
Quale/i genere/i di prodotti non acquisteresti mai online e perché?	Diffilmente acquisto capi di abbigliamento, perché devo provarli.	generi alimentari di prima necessità in quanto accessibili a prezzi idonei anche nei discount	medicinali perché non mi fido.	in genere non acquisto
Quali attività ti vengono in mente quando pensi alla cura di te e del tuo benessere? Quali pratichi più spesso e quanto tempo gli dedichi?	Penso ad un lungo bagno caldo, alla meditazione, ad una tazza di tè. Dedico poco tempo a tutto questo purtroppo.	Lo sport è una delle attività che attribuisco alla cura della persona, oltre ad integratori e prodotti di bellezza (creme antirughe, creme per il corpo)	Massaggi. Molto raramente perché costano troppo.	preferisco camminare, leggere, dipingere
Pensi che l'attività sessuale, compresa la masturbazione, possa essere considerata una forma di cura di sé? Motiva la risposta o	Penso possa essere considerata una forma di cura di sé. E' una forma di conoscenza del proprio corpo e del proprio piacere. Ma	In parte può essere considerata anche la masturbazione una cura di sé, come momento di rilassamento e/o sfogo.	No	personalmente non mi interessa, non ho nessun giudizio negativo in merito

<p>raccontaci cosa pensi rispetto all'argomento.</p>	<p>per quanto la masturbazione possa provocare piacere non la trovo appagante quanto un rapporto sessuale con un'altra persona. Il contatto con un altro corpo resta per me fondamentale per un piacere più completo.</p>			
<p>Hai riscontrato dei cambiamenti nella tua vita sessuale dopo la menopausa? Quali? E se sì, hai provato a contrastare questi cambiamenti in qualche modo? Raccontaci brevemente.</p>	<p>Personalmente , l'unico cambiamento che ho notato, al momento, è la secchezza vaginale, per cui devo utilizzare i lubrificanti. A parte questo non ho notato una diminuzione del desiderio o del piacere. Spesso però le donne in menopausa vivono dei disagi legati al corpo che cambia, in peggio sicuramente, al</p>	<p>Dopo la menopausa non ho riscontrato grossi cambiamenti a livello fisico, forse un po' di secchezza vaginale, penso che il calo dell'attività sessuale sia dovuto sostanzialmente a un calo dell'interesse nei confronti dell'altro sesso probabilmente anche per retaggi culturali che non vedono l'interesse</p>	<p>Non c'è più appetito sessuale, ma questo non mi crea problemi anzi direi che è meglio.</p>	<p>calo desiderio, non ho provato a contrastarlo, ma ad accettarlo come fisiologico</p>

	<p>fatto che gli uomini difficilmente si approcciano ad una donna "matura" e quindi vivi il rifiuto legato all'età, per quanto invece la sessualità con una donna in menopausa, se ben stimolata, può essere molto appagante</p>	<p>sessuale per rapporti occasionali e di conseguenza è difficile trovare un rapporto d'interesse con la consapevolezza di quello che comporta un impegno con un'altra persona.</p>		
Cosa pensi dei sex toys? Motiva la tua risposta.	<p>li ho sempre trovati divertenti e stimolanti e li ho sempre utilizzati. Per rispondere alla domanda 9) seguente, per quanto siano piacevoli, li vivo sempre come un "surrogato" e come una forma di piacere da vivere in solitaria. Per me rappresentano più un mio modo privato di vivere il sesso quando non lo faccio con una persona. E' un</p>	<p>Penso che i sex Toys possano essere un oggetto di curiosità, forse non indispensabili ma sicuramente ho sempre avuto una certa curiosità per questo genere di cose. Non li ho mai acquistati in quanto sono una spesa della quale posso fare a meno. Non ho nessun tipo di chiusura verso chi li utilizza.</p>	<p>Mai considerati, non mi interessano.</p>	<p>prima d'ora non sapevo cosa fossero, ma non mi interessano</p>

	mio momento personale.			
Hai avuto esperienze di qualche tipo con i sex toys? A prescindere dalla risposta negativa o positiva, quale spettro di emozioni colleghi all'argomento? Motiva la tua risposta.	vedi sopra.	Non ho avuto esperienze dirette con i Sex Toys. Sono certa che utilizzati con un compagno in complicità potrebbero essere un piacevole gioco sessuale.	No mai.	no
Cosa pensi dell'utilizzo di sex toys nella vita di coppia? Quale reazione reale o ipotetica ha avuto o pensi avrebbe il tuo partner rispetto alla proposta di utilizzarne uno?	Li ho sempre usati in coppia ma sporadicamente per i motivi di cui sopra. Se faccio sesso con qualcuno non ne sento il bisogno e non riesco a viverne l'aspetto giocoso o di condivisione. All'altro di solito piace e probabilmente si eccita all'idea di una "doppia penetrazione". A me invece non piace perché è come	Sono certa che utilizzati con un compagno in complicità potrebbero essere un piacevole gioco sessuale. Non ho un partner attualmente, ma credo che nella mia scelta di un probabile compagno non sarebbe certo un argomento tabù.	Mai utilizzati.	se aiuta e se scelto dalla coppia, va bene

	se non riuscissi a concentrarmi “su due” fronti.			
Pensi che una linea di sex toys e lubrificanti appositamente pensati per donne o per coppie che hanno superato la mezza età possa incuriosirti o contribuire al tuo benessere?	Curiosità: quali sono o potrebbero essere i sex toys o i lubrificanti per persone che hanno superato la mezza età? In cosa differiscono dagli altri? Comunque si, in generale potrebbero contribuire specialmente per tutte quelle donne che ancora sono reticenti rispetto all’argomento, una linea “adattata” può avvicinarle.	Sicuramente un lubrificante potrebbe agevolare il rapporto nei momenti in cui si verifica una secchezza vaginale, per i Sex Toys potrebbe essere un gioco di complicità che vivacizza il rapporto sessuale	non so se potrebbe incuriosirmi.	non ho alcun interesse personalmente, ma potrebbe per altre

<p>Che cosa, secondo te, non dovrebbe mancare in questa linea di prodotti? Quali caratteristiche dovrebbero avere? (Le risposte possono fare riferimento ad aspetti ergonomici, di funzionalità, di estetica etc.)</p>	<p>Non saprei... ho dato un'occhiata al sito e mi sembra ci sia già tanto! Magari qualche prodotto delicato, o per il corpo!? Personalmente, ho sempre preferito i sex toys "realistici" ma sono aperta a tutto.</p>	<p>Probabilmente questi prodotti dovrebbero essere maggiormente pubblicizzati per una fornire una visione di complicità e unione della coppia e per eliminare i tabù sul sesso presenti ancora al giorno d'oggi. Inoltre dovrebbero fornire spiegazioni molto semplici sull'utilizzo per chi si affaccia per curiosità su questo tipo di prodotto.</p>	<p>non saprei.</p>	<p>sinceramente non ne ho idea, forse qualcosa che lubrifichi.</p>
<p>Ti chiediamo gli ultimi cinque minuti per dare un'occhiata alla homepage di questo sito: https://www.mysecretcase.com/. Ti ispira fiducia? Acquisteresti la linea di prodotti sopracitata (domande 11, 12) su questo sito? Argomenta la</p>	<p>Si, mi ispira molta fiducia, infatti ho acquistato.</p>	<p>Il sito è esplicito (forse per alcune donne alle "prime armi" un po' troppo!) e incuriosisce, i prodotti sono descritti in modo molto dettagliato. Se volessi provare un Sex Toys lo acquisterei sul sito indicato.</p>	<p>Se fossi interessata forse, ma non so se mi interessano.</p>	<p>E' troppo sgargiante.</p>

tua risposta.				
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1.3 Task analysis

The first step in the developing process consisted in analyzing the main tasks our target users will be more likely to act upon when using the “My secret case” dedicated section.

This phase of the analysis is devoted not only to identify the performable tasks but also to underline the contexts and goals which they directly relate to: in order to do so Hierarchical Task Analysis was employed, focusing on the decomposition of high-level tasks to their smaller units, reaching the lowest-level interaction between users and machine.

Interaction between the users, the website and other resources (physical or digital) were also taken into consideration.

The website is accessible through any device able to connect to the Internet: this encompasses both smartphones, tablets and computers (PC or desktop). The webpage is reachable as a dedicated subsection of “My secret case”, both from the homepage of the main resource or by specific keywords in general web search engines (e.g. “My secret case - Venus”). The steps regarding the reaching of the dedicated section of the website and the adjustments of filters (present nowadays as an option for every page of “My secret case”) are considered as preliminary tasks for every other one, and are therefore analyzed once and separately and then recalled when needed.

Lead-in tasks:

1. Finding “My secret case”
2. Reaching the dedicated section of the website
3. Adapt the website filters

Two different kinds of tasks were then identified in terms of their final objectives: information-oriented tasks and service-oriented tasks. The first category relates to the actions connected to the user’s desire for further information connected to the main products sold in the website, and relies on a set of accessory services offered in the

platform, while the latter category of tasks is more tightly connected to the acquiring (by sale or download) of some kind of product.

At the end of this process 6 tasks belonging to the first category and 4 in the second were identified and analyzed.

Information-related tasks:

1. Read an article on the blog
2. Ask a question on the blog
3. Retrieve information regarding a specific category of sex toys
4. Retrieve information regarding a specific item

Service-oriented tasks:

1. Register to the website
2. Buy a single item (this includes all-in-one packages)
3. Return an item
4. Read the sex-toys handbook

Preliminary step	
Context	You are looking for a sex toys' online shop
Goal	Accessing "My secret case" webpage
Steps	<ol style="list-style-type: none">1) Open your browser and make sure your Internet connection works;2) Use a search engine and write the query "My secret case" in the search bar;3) Click on the link "MySecretCase";4) Eventually, directly type the url of the website in the address bar;5) Access the webpage.

Reaching the dedicated section of the website	
Context	You are looking for the website section dedicated to your needs
Goal	Accessing a specific section

Steps	<ol style="list-style-type: none"> 1) Perform the preliminary step; 2) Click on the interested section's button in the top navbar; 3) Eventually use a search engine and write the query "My secret case" in the search bar; 5) Eventually, directly type the url of the website in the address bar; 6) Access the webpage.
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Adapt the website filters/language	
Context	You want to adapt the filters of the webpage to your specific needs
Goal	Adjusting "My secret case" accessibility filters to one's specific needs
Steps	<ol style="list-style-type: none"> 1) Perform the preliminary task and\or access the dedicated section; 2) Click on the dedicated button on the bottom-right of the page to trigger filters studied specifically for elders; 3) Eventually scroll down to the bottom of the page; 4) Click on the "Accessibility" link; 5) Select the needed filters; 6) Apply the filters.

Read an article on the blog	
Context	You are looking for a deeper understanding of a sex related issue
Goal	Reading an article on the blog
Steps	<ol style="list-style-type: none"> 1) Perform the lead-in tasks; 2) Click on the blog's link in the footer; 3) Scroll the articles' list until the one you were looking for; 4) Click on the article's title; 5) Eventually select topics from the navbar; 6) Eventually search the keywords in the searchbar; 7) Open the article.

Ask a question on the blog	
Context	You want to ask a question on the blog
Goal	Asking a private question on the blog
Steps	<ul style="list-style-type: none"> 1) Perform the lead-in tasks; 2) Click the blog's link in the footer; 3) Click on the "Sexy questions" button in the navbar; 4) Click on the "Write your question" button; 5) Write your name and email in the dedicated boxes; 6) Select your sex and birthdate; 7) Write your question in the dedicated box; 8) Click on the "Resolve your doubt" button; 9) Send your question; 10) Eventually look for similar questions at the bottom of the page.

Retrieve information regarding a specific category of sex toys	
Context	You want more information about a specific category of sex toys
Goal	Get more information about one of the categories of sex toys present in "My secret case"
Steps	<ul style="list-style-type: none"> 1) Perform the lead-in tasks; 2) Click on the button relative to the macrocategory of sex toys you are looking for; 3) Eventually hover the category button to make the subsection menu appear; 4) Click on the icon of the category you want to know more about; 5) Scroll to the bottom of the page to visualize the textual info relative to the category; 6) Read the text.

Retrieve information regarding a specific item	
Context	You want more information about a specific sex toy
Goal	Get more information about one of the sex toys

	present in “My secret case”
Steps	<p>1) Perform the lead-in tasks;</p> <p>2) Click on the button relative to the macrocategory of sex toys you are looking for;</p> <p>3) Eventually hover the category button to make the subsection menu appear;</p> <p>4) Click on the icon of the category you are interested in;</p> <p>5) Click on the box in the page main section corresponding to the item you are looking for;</p> <p>6) On the new page click on the left and right arrows to look at the images regarding the product;</p> <p>7) Scroll the page down to read the product description;</p> <p>8) Eventually click on the buttons related to specific subsections (e.g. “Materials”) to open the dedicated text sections</p> <p>9) Read the information.</p>

Register to the website	
Context	You want to register to the website
Goal	Register in “My secret case”
Steps	<p>1) Perform the lead-in tasks;</p> <p>2) Click on the button showing a frontal silhouette on the upper right;</p> <p>3) Click on the “Register” link;</p> <p>4) Write your name in the “Name” box;</p> <p>5) Write your surname in the “Surname” box;</p> <p>6) Write your email in the “Email” box;</p> <p>7) Write your password in the “Password” box;</p> <p>8) Click on the “Register me” button</p>

Buy a single item (this includes all-in-one packages)	
Context	You want to buy an item from the website
Goal	Buy one of the sex toys\all-included packages present in “My secret case” section

Steps	<ol style="list-style-type: none"> 1) Perform the lead-in tasks; 2) Click on the button relative to the macrocategory of sex toys you are looking for; 3) Eventually hover the category button to make the subsection menu appear; 4) Click on the icon of the category you are interested in; 5) Click on the box in the page main section corresponding to the item you are looking for; 6) Eventually click on the cart icon on the item box; 7) Click to the “Put in the Cart” button; 8) Eventually click on the “Continue shopping” button on the box that appeared 9) Eventually repeat from step 3; 10) Click on the “Go to payment” button in the box that appeared; 11) Click “Continue” in the summary page; 12) Eventually click on “Go back to shopping” and repeat from step 3; 13) Compile the “My data” section with your personal data; 14) Click “Continue”; 15) Select the payment method; 16) Compile the payment information 17) Click on “Continue”; 18) Wait for the page to upload the payment.
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Return an item	
Context	You want to return an item you bought from the website
Goal	Return one of the sex toys\all-included packages present in “My secret case”
Steps	<ol style="list-style-type: none"> 1) Perform the lead-in tasks; 2) Enter to your personal area; 3) Insert the data you used for your order to log in; 4) Click on the “Client services” button on the left side of the page; 5) Click on the “Returns and refunds” button; 6) Click on the most suited option between the ones presented to you; 7) Click on one of the links to compile the form to the

	<p>client service;</p> <p>8) Select from the dropdown menu the reason for your request;</p> <p>9) Write your email in the “Email” box;</p> <p>10) Write your issue in the textbox;</p> <p>11) Click on the “Upload photo” button;</p> <p>12) Browse your local repository and select one or more files;</p> <p>13) Eventually indicate the number of order and\or product's name in the devoted section;</p> <p>14) Click “Send”.</p>
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Read the sextoys handbook	
Context	You want to download the sextoys handbook from the website
Goal	Download the sextoys handbook present in “My secret case - Venus” section
Steps	<p>1) Perform the lead-in tasks;</p> <p>2) Click on the “Guide to the toys” link in the footer;</p> <p>3) Click on the subsection link you are interested in;</p> <p>4) Read the instructions.</p>

2. Assessment of existing resources

2.1 Expert usability review

2.1.1 Identification of guidelines

It is impossible to further proceed with this inspection without a prior identification of adequate guidelines to evaluate the usability of the website.

We consequently chose a set of well established principles to base our inspection on: the main objective of this heuristic evaluation is then to identify any problems that could be associated with the use of interface design.

This method, developed by Jakob Nielsen, who was himself a usability consultant, is based on years of teaching and consulting experiences related to the mechanisms of usability: tough widely adopted by researchers, it is good to keep in mind that the

heuristic set developed by Nielsen in 1996 is not the only one employable and that other research teams decided to propose their own.

In this context it was chosen to adopt an extended version of Nielsen's Principles, that is the heuristics identified in 2000 by Susan Weinschenk and Dean Barker.

The 20 heuristics of Weinschenk and Barker (2000)

1. User Control

The interface will allow the user to perceive that they are in control and will allow appropriate control. Heuristics that check whether the user has enough control of the interface.

2. Human Limitations

The interface will not overload the user's cognitive, visual, auditory, tactile, or motor limits. The design takes into account human limitations, cognitive and sensorial, to avoid overloading them.

3. Modal Integrity

The interface will fit individual tasks within whatever modality is being used: auditory, visual, motor or kinesthetic.

4. Accommodation

The interface will fit the way each user group works and thinks. The design is adequate to fulfill the needs and behaviour of each targeted user group.

5. Linguistic Clarity

The interface will communicate as efficiently as possible. The language used to communicate is efficient, clear and adequate to the audience.

6. Aesthetic Integrity

The interface will have a tractive and appropriate design. The design is visually attractive and tailored to appeal to the target population.

7. Simplicity

The interface will present elements simply. The design does not use unnecessary complexity.

8. Predictability

The interface will behave in a manner such that the user can accurately predict what will happen next. Users will be able to form a mental model of how the system will behave in response to actions.

9. Interpretation

The interface will make reasonable guesses about what the user is trying to do. There are codified rules that try to guess the user's intentions and anticipate the actions needed.

10. Accuracy

The interface will be free from errors. The result of user actions corresponds to their goals.

11. Technical Clarity

The interface will have the highest possible fidelity. The concepts represented in the interface have the highest possible correspondence to the problem domain they are modeling.

12. Flexibility

The interface will allow the user to adjust the design for custom use.

13. Fulfillment

The interface will provide a satisfying user experience. The user experience is adequate and the user feels good about the experience.

14. Cultural Propriety

The interface will match the user's social customs and cultural expectations.

15. Suitable Tempo

The interface will operate at a tempo suitable to the user.

16. Consistency

The interface will be consistent. Different parts of the system have the same style, also linguistically, so that there are no different ways to represent the same information or behavior.

17. User Support

The interface will provide additional assistance as needed or requested. The design will support learning and provide the required assistance to usage.

18. Precision

The interface will allow the users to perform a task exactly.

19. Forgiveness

The interface will make actions recoverable. The user will be able to recover to an adequate state after an error.

20. Responsiveness

The interface will inform users about the results of their actions and the interface's status. It should provide the user enough feedback information about the system and their task completion.

2.1.2 First inspection of the system

The url to access MySecretCase is <https://www.mysecretcase.com/>: the page is property of MySecretCase and was designed by MySecretCase s.r.l., as stated in the footer.

The data present in the website are accessible to all, with a particular attention to accessibility issues represented by the “Accessibility for all” (“Accessibilità per tutti” in Italian) link in the footer that allows users to manipulate the appearance of the website and suit at best the specific needs of people with different kinds of disabilities or limitations.

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MySecretCase also created a guide to their products, describing the different kinds of toys, their uses and clarifying doubts from users.

A blog is also present divided in sections of interest such as “Sex”, “Sexual health” “Kamasutra” etc.

Looking at the website palette we can notice a predominance of pink, in different shades, from the salmon tint of the “Secret” in the logo to more fuchsia-ish shades, while the other colors present in the website are white, purple, green, orange, yellow and their different shades, recalling the colors of the rainbow. Also the shapes of the website tend to be rounded, with the exception of visible boxes that host product’s highlights, and the whole architecture suggests a feeling of openness and acceptance with both forms, colors and contents.

The homepage looks very intriguing and well realized, both in terms of information content, design, coherence of message and expression and attention to “details” such as the various accessibility issues directly addressed from the footer.

Describing the homepage architecture from top to bottom, the first visible object is a banner announcing “Free expeditions for orders above 35\$”, followed on the right by the logos of Facebook and Instagram, leading to the company pages on the two social networks; there follows the navbar where we can see, from left to right, the logo of the website, followed by a list of buttons, namely “Discounts”, “SexToys”, “Vagina”, “Penis”, “Anus”, “Couple”, “Bondage”, “Underwear”, “Lubricants” and “Lipgloss”, each of which, when hovered with the mouse, reveals a hidden menu showing specific subsections, and that are followed by the search, profile and cart icons; following we have a box showing short video clips, with the button “Come now” placed in the middle and leading to the shop itself; then there is a section that assures the anonymity of the package, and below are to be found six icons, corresponding to bestselling products that, if clicked, lead to the specific sections of the shop; we can then find another box with products highlighted at the moment, placed above another set of five clickable items, vertically followed by another box; proceeding towards the bottom we can find a slideshow of reviews, another set of five items and a section with four “Capsules” divided in rows of two, each of which clickable; following there is another list of five

products placed above a list of six pros for buying sex toys from the online shop, divided in rows of three items each; further comes a box devoted to the assistance service and below another slideshow of reviews; then we have another box for video clips and a section devoted to the description of the services of the website, their mission and other informations; at the end we can find a box devoted to the inscription to the newsletter and the footer, which is divided in six subsections, namely from left to right “Information”, “Explore”, “Top category”, “Enjoy yourself with”, “Contacts” and “Follow us”, with more useful links such as the accessibility facilitator, the guide to the products and some products’ shortcuts.

The overall impression given by the first page is that of a complete and exhaustive interface, with maybe a little overloading of information, mostly due to their placement in the page structure more than to their overall number: the feeling, once reached the end of the page, is to be in possess of all information needed with respect to the company and its products.

Sections related to items and textual ones are juxtaposed in a structure that could have been dispersive or redundant if it wasn't for the variegated color palette and the pattern followed by the information given to the user, which enrich a bit in every section.

All images and videos are in a very good quality and, even with clips one has never the impression of being distracted from the main message conveyed by the interface as a whole, but rather of the latter being enforced by the first.

The website is perfectly responsive and adjustable at every width, and the layout and content quality are not affected by the visualization from smaller screens such as smartphones' and tablets'.

The pages related to products all contain the same navbar of the homepage, a menu to apply filters to the shown items on the left quarter of the screen, while the left three quarters are occupied by the display of products, four per row. Above we have a short description of the products' category, mirrored in the bottom of the page by a wider and more detailed one, and, also on the top preceding the products, we have a row or two (depending on the screen size) of circular buttons for other related categories. Each object is clickable and leads to the dedicated page, which presents, below the navbar, a slideshow occupying half the page, followed on the left by the product's name and the “Add to cart” button: following vertically there is the product's description, correlated with a short explanatory video, product's reviews and suggestions of the kind “You may also like” with a row of related products. We have two other ‘suggestions’ rows and then the newsletter box.

The footer is present in each of the pages.

The blog page presents a remarkably similar structure, both in the home and in the subsection: the main differences in the first are all condensed in the content, that here encompass article sections, highlights and the “Oroscopando”, the sexually-oriented horoscope of MySecretCase, followed by a brief explanation of how the blog works and what it aims to do; what distinguishes the categories’ pages from the ones of the main website is that here we can find only lists of three articles per row, presented in boxes with a short description, and explanations in the bottom section, without any filtering option. The overall content structure remains coherent, with a very similar palette, reduced of some shades, and the roundish forms.

In the following section we aim at presenting the usability issues identified at a first inspection of the system:

- **Information overload:** there is an excessive amount of oversaturated colors, that can be intimidating for aging users; also the pages present a vertically oriented structure, with a focus on scrolling of contents to retrieve growing amounts of information, and this can be problematic for information withholding; another issue related to information overload is the fact that, being everything colorful and flashy, more sober boxes containing useful information such as package anonymity are overlooked as unimportant due to their simplicity in forms and tints;
- **Linguistic limitations:** even if it is granted the possibility to translate the page in a variety of languages, the commands to access such features are difficult to access, due to their positioning in the footer and their naming, “Accessibilitá per tutti” which results as incomprehensible for non italian users;
- **Lack of consistency/coherence:** when we are strictly discussing of internal consistency the situation is strongly positive, with a small amount of redundancy that is functional for a better recalling of information; what is visible is the lack of coherence between the mission that distinguishes the service from similar ones and the positioning of accessibility features in the website, whose position in the footer is not functional to direct identification;
- **Hidden customization features:** The possibility to customize the website is present but it is also positioned in the footer, presenting the same difficulties in finding already discussed for the accessibility features;
- **Bad navigation system:** the link between the main website and the blog, and vice versa, is sited in the footer, making it difficult to find;

These are the main usability issues identified during the first task analysis:

- Finding the accessibility features is almost impossible if you are not italian;

- A language switch button is absent and the possibility to change it is posed in the “Accessibility for all” section, which is difficult to find for foreign users;
- The blog link is hidden in the footer and difficult to find;
- When on the blog the denomination of the section devoted to pose questions is called “Sexy questions” and is thus unclear in its function;
- To retrieve information regarding categories of sex toys one must first go to the section of the website dedicated to such category, making it difficult to unexpert users to have a complete overview of what each of the products does;
- The handbook is only consultable online and it is not so much a proper guide as a “frequently asked questions” collection;

2.1.3 Direct analysis

After a fast inspection it has now come the moment to confront the application to the chosen guidelines, in order to highlight issues and deficiencies of the resource. This evaluation is independent of target users and based on functions already available in the website.

We analyzed homepage, categories, object and blog screens in order to understand where the violation lies and what they referred to.

PAGE	VIOLATION
Homepage	2: Information dispersion 4: the design fits only specific users group (e.g. 18-36 sexually aware people) 5: The language is not always clear in the attempt to be funny and outgoing 7: The design is overloaded with colors and sometimes distracting 12: The interface allows simple customization only for italian and expert users 13: The interface can result frustrating due to its vertical long structure
Category page	2: Information dispersion 4: the design fits only specific users group (e.g. 18-36 sexually aware people) 7: The design is overloaded with colors and sometimes distracting 12: The interface allows customization simply only for

	italian and expert users
Product page	<p>2: Information overload</p> <p>4: the design fits only specific users group (e.g. 18-36 sexually aware people)</p> <p>7: The design is overloaded with colors, images and videos and sometimes distracting</p> <p>12: The interface allows customization simply only for italian and expert users</p>
Blog	<p>2: Information overload</p> <p>4: T he design fits only specific users group (e.g. 18-36 sexually aware people)</p> <p>7: The design is overloaded with colors, images and icons and the placing of contents doesn't seem to follow any logical structure</p>
Clients' assistance	<p>10: The interface has a link in the top right that leads to the interface itself</p> <p>11: There is a discrepancy between buttons with the same look that can sometimes lead to information pages and sometimes to product pages</p> <p>12: The interface doesn't allow customization</p>
Toys guide	<p>2: Information dispersion</p> <p>5: Information is disseminated inside boxes for whom only titles are visible and such titles are sometimes unclear</p> <p>12: The interface allows simple customization only for italian and expert users</p>
Accessibility overlay	<p>1: The interface makes it impossible for itself to be found, being signaled only in italian and in the footer</p>

After performing the analysis we discovered 24 violations of the selected guidelines: we then proceeded to order them from most to least recurrent, including the total number of occurrences for each violation.

We analyzed 7 pages: in the following tables you can see the list of violations both per category and per page.

Most Violated Guidelines	Most Problematic Pages
1: User control (1) 2: Human limitations (5) 4: Accommodation (4) 5: Linguistic clarity (2) 7: Simplicity (4) 10: Accuracy (1) 11: Technical clarity (1) 12: Flexibility (5) 13: Fulfillment (1)	Homepage: (6) Category page: (4) Product page: (4) Blog: (3) Client's assistance: (3) Toys guide: (3) Accessibility overlay: (1)

2.1.4 Reverse analysis

The same analysis will now be repeated systematically, this time looking at guidelines with respect to the system. Also in this case the evaluation will be based on the functions available on the interface and independent of expected users. Only issues not found in the direct analysis will be written down.

Guideline	Violation
1. User control	-----
2. Human limitations	-----
3. Modal integrity	-----
4. Accommodation	Blog: there is not the possibility to have an auditory perception of contents
5. Linguistic clarity	-----
6. Aesthetic integrity	-----
7. Simplicity	-----
8. Predictability	Clients' assistance: Here every question/issue posed is a link on its own while in the "Guide to the toys" they were dropdowns

9. Interpretation	-----
10. Accuracy	Blog: clicking on the banner in the bottom will have no effect at all
11. Technical clarity	-----
12. Flexibility	Blog: The accessibility link in the footer disappears
13. Fulfillment	Category page: the long scrolling of the page can be unpleasant
14. Cultural propriety	-----
15. Suitable tempo	-----
16. Consistency	-----
17. User support	-----
18. Precision	-----
19. Forgiveness	Accessibility overlay: some filters such as "Reading modality", once selected do not give you the chance to go back
20. Responsiveness	Product page: Once started the videos keep going even if the user scrolls to the top or bottom, making the video box disappear

At the end of this analysis 7 new violations were collected, bringing the total to 31. Violations were then divided into Systematic, Common and Rare, basing on the amount of pages they appeared in.

Systematic	Common	Rare
12. Flexibility (7)	2. Human limitations (4) 4. Accommodation (5)	5. Linguistic clarity (2) 7. Modal integrity (3) 10. Accuracy (2) 11. Technical clarity (1) 13. Fulfillment (2) 19. Forgiveness (1) 20. Responsiveness (1)

We can now compare the violations per page in every phase of the analysis.

Direct analysis	Reverse analysis
Homepage: (6) Category page: (4) Product page: (4) Blog: (3) Client's assistance: (3) Toys guide: (3) Accessibility overlay: (1)	Homepage: (6) Category page: (5) Product page: (5) Blog: (6) Client's assistance: (4) Toys guide: (3) Accessibility overlay: (2)

2.2 User testing

When it comes to evaluating existing resources, it is essential to include on the one hand the characteristics and services offered by the available resources, on the other hand the ways in which users approach these resources and use them. Usability tests aim to effectively understand the behavior of users in the use of existing resources, verifying the frequency and severity of errors with respect to their task.

2.2.1 Definition of testing protocols

The approach we have adopted for the test is the so-called discount or guerrilla usability test. It is a less developed test than the so-called deluxe test and involves a smaller number of participants, without the involvement of a team of usability experts. Despite this more apparently "superficial" nature, it has the advantage of being economically accessible and above all of effectively identifying user errors to provide significant ideas and insights in the structuring of a new and effective design. These advantages, combined with the more synthetic nature of this type of test and the lack of budget and timing related to our project, prompted this test choice without delay.

To conduct the test we used the "think aloud" methodology, which involves participants expressing their actions and thoughts as they complete tasks in the context of the test.

We conducted three tests, separated into sessions. Each person belongs to what we identify as a segment of critical users identified through our research.

Each participant was briefly informed about the project. Knowledge of the content, structure and objectives of the test was provided. We have had consent with respect to the recording of the testing sessions. Their anonymous profiles can be outlined as follows:

User 1	S. B. is a 62-year-old lawyer who has lived in Rome for many years. Since her daughter moved to Bologna she has been living alone and through meditation she is learning the importance of self-care that she has often underestimated. A friend of hers she does trekking-yoga with told her about sex toys but she has never used them. She hasn't had a relationship for some time, but she has been dating a man for a few weeks. It has good technological skills.
User 2	R. N. is a 25-year-old student. She has been suffering from epilepsy for several years and considers it essential to raise awareness of the subject. She runs a page on Instagram dedicated to the topic, which aims to eliminate several taboos through good information. She has an extreme command of technology, although she complains that sites are often not designed and adapted for people with severe neurological disorders. Especially when using someone else's computer, as in this case, she has to be careful. She frequently uses sex toys but has never bought them on the internet because she feels safer buying them in a physical shop.
User 3	C. H. is a 55-year-old woman who is involved in film production. She travels a lot and has no children or partner. She does a lot of sport but has no more time to focus on self-care. She finds that sex is not absolutely fundamental and indeed, she defines herself as "frigid" with pride. However, C.H tells us that her sister, who is a gynecologist, often tries to convince her to explore her intimacy more. She has had a special relationship with a colleague for some time and feels confused about it. She has no idea how to open up nor does she know if she wants to.

The three participating women were asked to carry out the following activities, which were found to be the most appropriate and relevant to the user segment.

Task 1: Filters Accessibility	Locate the Accessibility Filters section and possibly choose one that personalizes your experience.
Task 2: Purchase Package	Understand how to make a "complex" purchase that is made up of products from the same line or suggested as purchasable together.
Task 3: Blog Interaction	Enter the Blog, post a question and return to the Homepage

After completing the various tasks, the participants completed the System Usability Scale (SUS) questionnaire which includes 10 questions, proposed with positive and negative statements, to which they are asked to answer according to a 5-level Likert scale. Despite its generic nature, this method was chosen for its simplicity and effectiveness. In addition, it was completed through a single easy application (SEC) which requires the ease of completing every single proposed task.

Metrics for the measurement of the success of the tests:

- Task completion rate higher than 75%: completion will be considered as binary data: if the users completes the task successfully they score 1, otherwise they score 0. Reference: <https://measuringu.com/task-completion/>
- Error-free rate higher than 75%: errors will be treated as binary data: the user either committed a least one error and scores 1, or committed no errors and scores 0. Reference: <https://measuringu.com/errors-ux/>
- SUS higher than 68%: scores will be calculated following this report <https://usabilitygeek.com/how-to-use-the-system-usability-scale-sus-to-evaluate-the-usability-of-your-website/>

2.2.2 Testing Phase

User tests were performed in three successive sessions, one for each user. Participants were briefed on the scope and modalities of the test and asked for permission to record their speech.

We asked our users to browse the MySecretCase site, specifying the company's philosophy, aimed at inclusiveness and imagining a scenario in which to inquire and

purchase a sex toy on the site, personalizing their experience. They were asked to look for a way to understand how to filter their experience, easily understand how to buy multiple items combined and finally explore the Forum, and post a question, which also involves creating a profile. They had to explain the steps they took and the reasons why they acted as they acted.

User 1

Task 1: Filters Accessibility

The user, as soon as the homepage is loaded, says in a low voice and giggling "ah così subito", in Italian, then explaining that he was referring to the very colorful video accompanied by the words "Vieni ora". After this first moment of distraction she puts herself in and after repeating the task she starts looking for the accessibility filters. She scrolls down the page slowly and comments "how many discounts". She sees a big button that says "Ti serve aiuto? Esplora il Centro Assistenza" but by clicking it she is directed to a section dedicated to purchases and products returned. However, there is a search bar that says "Ciao! Come possiamo aiutarti?" and comments aloud "now that I'm here, let's try this!". She tries typing the words "Filtro", "Accessibilità", "Usabilità", "Non vedente" but there are no results. She then returns to the Home after a hesitation due to the absence of the explicit Home Button or breadcrumbs, and restarts the scroll. She dwells on the banners to read the offers several times. She gets to the bottom of the page, where she reads "Cos'è MySecretCase". She seems to get a little discouraged and apologizes for her slowness but assures us that she will find it. She keeps scrolling until she finds the footer and says "There is a lot of stuff here for sure there will be". She wears the glasses she had been holding in her hand until then and finally finds "Accessibilità per tutti". She emphasizes a sigh of relief and says "Mi hanno fatta sudare!". She clicks on the relevant button, navigates through the filters and select "Profilo Ipovedenti", "Lente di ingrandimento del testo" and "Nascondi Immagini". She explains that she does not see well and that this magnification and saturation increase mode is very convenient, she hides the images because they are very iridescent and therefore distracting for her. The first task is then completed, albeit slowly and with a moment of slight discomfort.

Task 2: Purchase Package

The user returns to the beginning of the Homepage, then notices that the buttons for the purchase of Sex Toys were fixed at the top. However, she realizes that browsing without images prevents her from orienting herself well and says she does not understand, for example, why there are buttons with the general wording "Sex Toys"

and buttons with body parts such as "Vagina", "Pene". She therefore takes a moment to scroll down again and remove the filter. She begins her search and hesitates between entering the more generic section or directly going to the section titled "Vagina". She claims that having never used such an item she will do a bit of a random scroll to see what she can find. She chuckles as she reads some names, then sees a filter on the left that says "Stimulation". She reads the list of possible stimulations and exclaims "how many things I don't know". After that she keeps scrolling and says she doesn't understand some English names, such as "Wand". She clicks on "Succhia Clitoride" which seems to be the clearest and most concise name. She sees a few reviews, they all look very positive. She adds it to the cart. A pop-up opens with other recommended items. They are lubricants and toy cleaners. She clicks on one of these, reads the description that appears in the pop-up, and also adds this product to the cart. She clicks on "Proceed" and completes the purchase after entering the shipping information and without having to create an account. The Task can be said to be concluded in a quasi-normal time and without particular hitches.

Task 3: Blog Interaction

The user states that she feels she has become familiar with the website. She looks for the "Blog" section in the navigation bar but can't find it. She claims she doesn't remember seeing it among the scroll banners and deduces that it could be in the footer, where she found the solution to Task 1 and where there were several other options to select. She scrolls through the website and starts reading the various options. She finds the "blog" option and clicks on it. She is redirected to the blog page. She scrolls on the main page of the blog and says "La gioventù!", alluding to the photos of the blog, which portray young couples in intimate attitudes. She searches the navbar and deduces that "Domande sexy" is the section she is looking for. She clicks on it and claims to be a little embarrassed by the section name. Once she has accessed the page, she sees the "Fai la tua domanda" button, clicks on it, enters the necessary credentials and posts the question. The task can be said to be completed in normal times, with some little embarrassment.

User 2

Task 1: Filters Accessibility

The user, even before opening the site, talks about how often she found herself in the condition in which navigation was complicated or stressful, because, especially from

devices belonging to third parties and therefore lacking some of the protective filters available for photosensitive epileptic subjects, she ran the risk of running into images with too intense and iridescent colors or repeated flashes and so on. This premise is necessary because, for safety, we have informed the user of the structure that had the site and what kind of stimuli she could receive. Task 1, consequently, was managed in a "pre-guided" way, in the sense that when the site was opened, the user explained to us how and when she felt stressed by the possibility of too many colors and or too many images. The user opens the homepage and exclaims "how wonderful", she is attracted to the site even if she states that it would be much easier to have the filters in the beginning. She scrolls down the site and immediately gets to the footage, specifying that often the accessibility filters are there and that she finds it quite "funny" because they should be in the opening words, even before the homepage. She easily selects the filter expressly dedicated to epileptic subjects and in consulting the site she claims to be well thought out anyway. The first task can be said to be solved very quickly, but more than by intuitiveness because of an habit.

Task 2: Purchase Package

Once the filter is selected, the user's navigation becomes very smooth and relaxed. She quickly accesses the "Vagina" section, which is of interest to both her and her girlfriend. She selects a 50% discounted sex toy and add it to her cart. She scrutinizes the suggestions that are offered to her as combined purchases but prefers to access the section "lubrificanti". She says that when she finds herself in relationships with her partner she still feels the stress of her condition and often needs help because of a stress-induced vaginal dryness. She scrolls down the page and finds a water-based but particularly thick lubricant. She also adds that to the cart and makes the purchase. This task was also carried out quickly and with confidence.

Task 3: Blog Interaction

The user returns to the homepage and looks for the blog section in the navigation bar, but cannot find it. She says it's weird and starts scrolling. She stops to read various banners and when she reaches the end, having ruled out other possibilities, she looks for it in the footer. Indeed, that's where the user finds the blog section. She accesses the blog, very quickly identifies the "Demande sexy" and adds a question related to epilepsy, filling in the necessary data. She checks if there are other articles related to the topic via the search bar but receives a negative response. She concludes the task, also in this case quite quickly, despite the interruptions during the scrolling phase.

User 3

Task 1: Filters Accessibility

The user accesses the site from his computer, a latest generation MacBook Pro. She accesses the home page and is quite impressed by the initial video. Look at the navigation bar and the top of the screen where the language selection filter is located but can't find any accessibility filters. Then she scrolls the page and stops several times, surprised by the clarity of some images and above all, she says, by terms she doesn't even know. She gets to the bottom of the page and sees the "list of titles", as she calls them, which lead her to find the "Accessibility Filters". She watches them but doesn't think of a way to personalize the experience. It actually seems quite hasty. The Task can be considered concluded even if partially, or better, without the need to complete it.

Task 2: Purchase Package

The user returns by scrolling to the top of the page. She reads the navbar titles and doesn't quite understand what she should click. She wonders if she should click what she likes or what her partner should like. She is a bit confused and tells us that it seems really strange to her, not necessarily a negative one, that people are so open to the subject of sex toys. She says she is a little intimidated by such frankness in terms. She is especially disturbed by the term "Succchia Clitoride", which, she says, seems almost painful to her. Access the "Vagina" page and the "classic vibrators" subsection. She finds a very small one that might be right for her, or, as she says herself, the one that seems least bad for her .. She feels very embarrassed doing this, especially in front of other people. She selects the "Classique Vibe Stud" vibrator which also offers a discreet container to carry it. In making the purchase, she reads the anonymity of the purchase and says she is reassured by this idea. She then reads the combination shopping tips and buys a disinfectant / cleaning product for sex toys that seems very useful to her as a purchase. She adds everything to the cart and completes his order fairly quickly, albeit stopping and distracting himself several times on the homepage.

Task 3: Blog Interaction

Even this user, once back to the homepage, is surprised not to find the section linked from the blog directly in the navigation bar, where she expected to find it. Therefore she proceeds to search and comes across a banner which is actually an abstract linked to

a blog article. So she takes this "shortcut" and logs into the blog. She finds herself among the articles and therefore clicks again on the blog home to find the questions to ask. She finds the "Domande Sexy", where she clicks and asks her question through the appropriate form. She thinks about the subject a lot because she doesn't have much to ask for. Then she goes back to the blog's homepage and sees the main image that she had previously missed (a young couple in intimate attitudes) and defines it as excessive. She completes the task correctly and fairly quickly.

2.2.3 Post testing phase

After having conducted all the user tests, it has been necessary to analyze their results in order to understand which are the main problems of the website.

Task Completion Rate

Although considering task completion as a binary datum (1 if the task has been successfully completed, 0 otherwise), user tests have raised the problem of how to consider those tasks which have been completed only by recurring to the aid of external resources or through some sort of suggestion like in the particular case of user 2.

	User 1	User 2	User 3
Task 1	Completed	Completed (external aid)	Completed
Task 2	Completed	Completed	Completed
Task 3	Completed	Completed	Completed (external aid)

The help is of two different types. In the case of user 2, this is a fundamental contribution from an external party to ensure the safety of the user. In the second case, the site itself offered an alternative way to access the blog section so it is perhaps not considered a real error. Consequently, we will consider only the first problem to which the MySecretCase page did not offer an a priori solution, making our intervention necessary. In conclusion, we have 8/9 tasks which have been successfully completed, which provides a task completion rate of 88,8%.

	User 1	User 2	User 3
Task 1	Completed	Completed (external aid)	Completed
Task 2	Completed	Completed	Completed
Task 3	Completed	Completed	Completed

Error-free rate

Error-free rate is 11,1%.

	User 1	User 2	User 3
Task 1	critical errors	no errors	non critical errors
Task 2	no errors	no errors	no errors
Task 3	non critical errors	no errors	non critical errors

SUS score

SUS score is 60.

2.2.4 Curves of urgency

The analysis of the results of the user tests, integrated with the previously conducted task analysis, was functional to the evaluation of errors and their categorization on the basis of the priority of their solution.

The evaluation of the errors was conducted through the creation of a table showing all the errors identified by our expert user and the actual feedback that they have had on users during the user tests. Three different scores have then been assigned to each of them, based on:

- **Frequency**: evaluates the number of users that noticed an existing usability problem. The scores have been assigned within a range of 4 users: the 3 people

who have conducted the user tests and the expert user himself.

- **Impact:** how and in which measure the problem influences the completion of the task. Nielsen Severity Scale is a unidimensional scale that has a range of 5 points 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 o 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

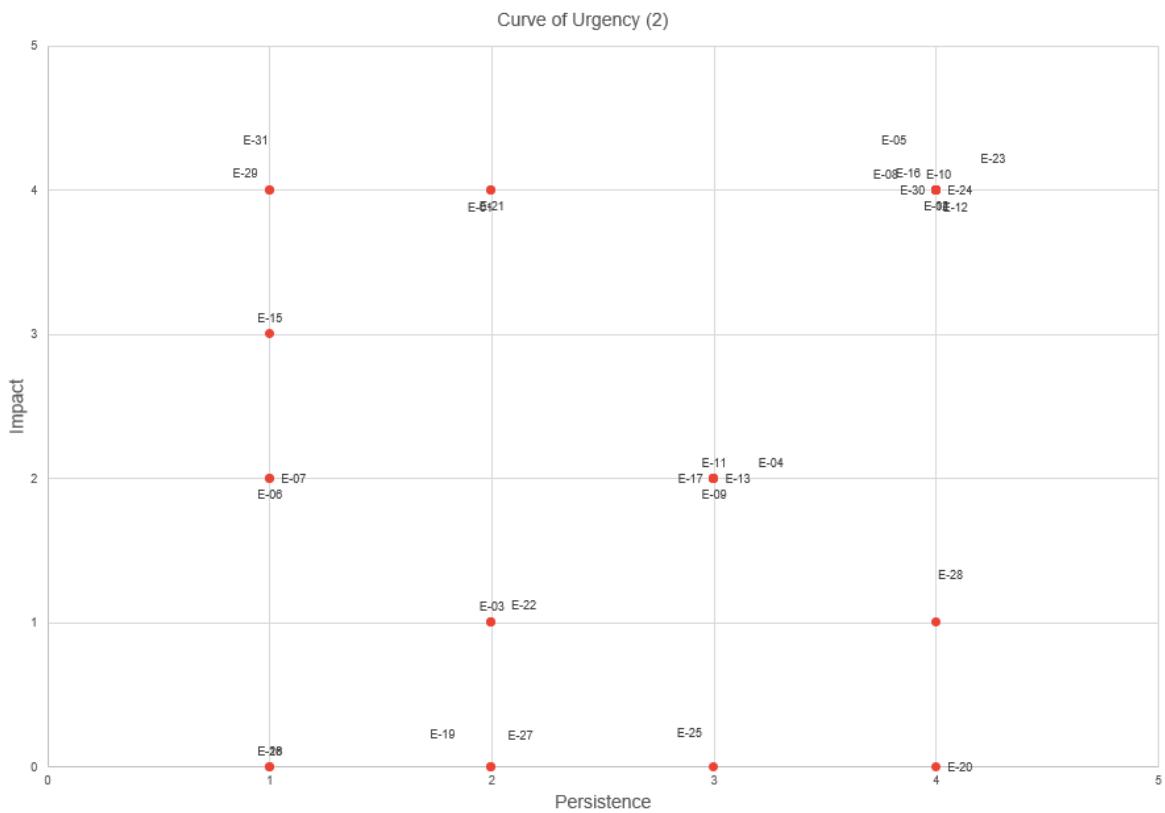
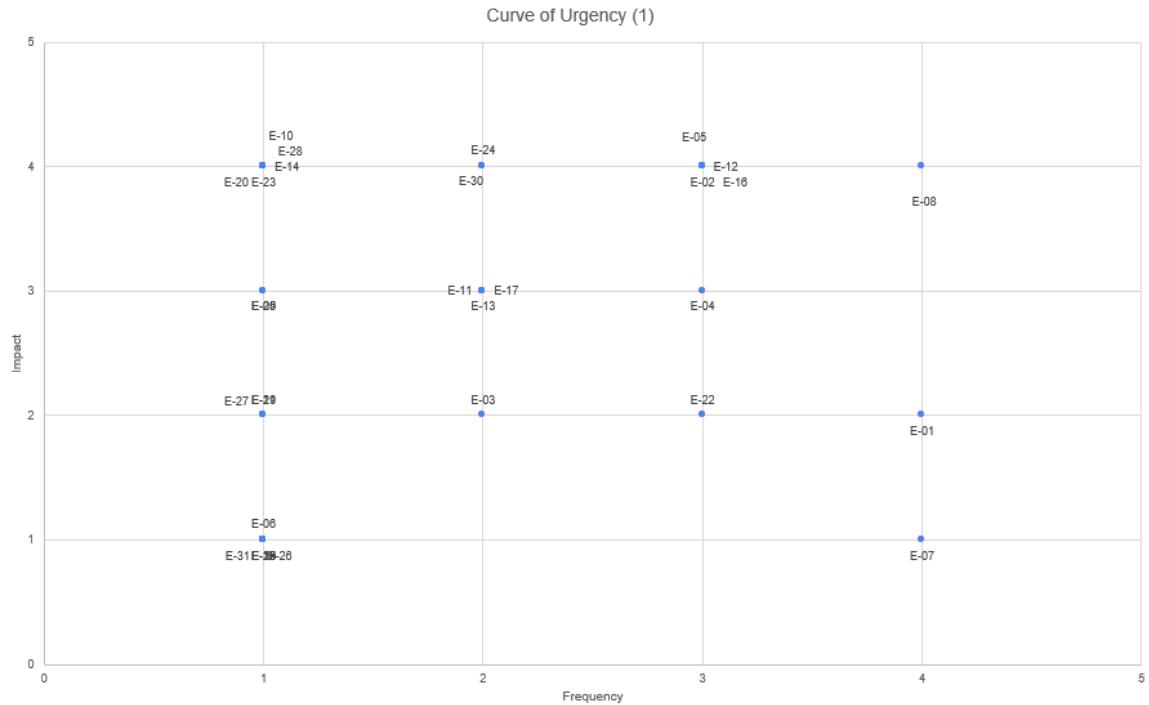
All the scores have been assigned after a discussion between the member of our team that conducted the task analysis and the one that conducted the user tests. No relevant disagreements have been raised, due to the fact that the errors impacted homogeneously both on the expert user and on the "new users".

- **Persistence:** the number and the relevance of the tasks that are affected by the problem. For maintaining the results homogeneous with the previous metrics, we decided to adopt a range of 5 points from 0 to 4.

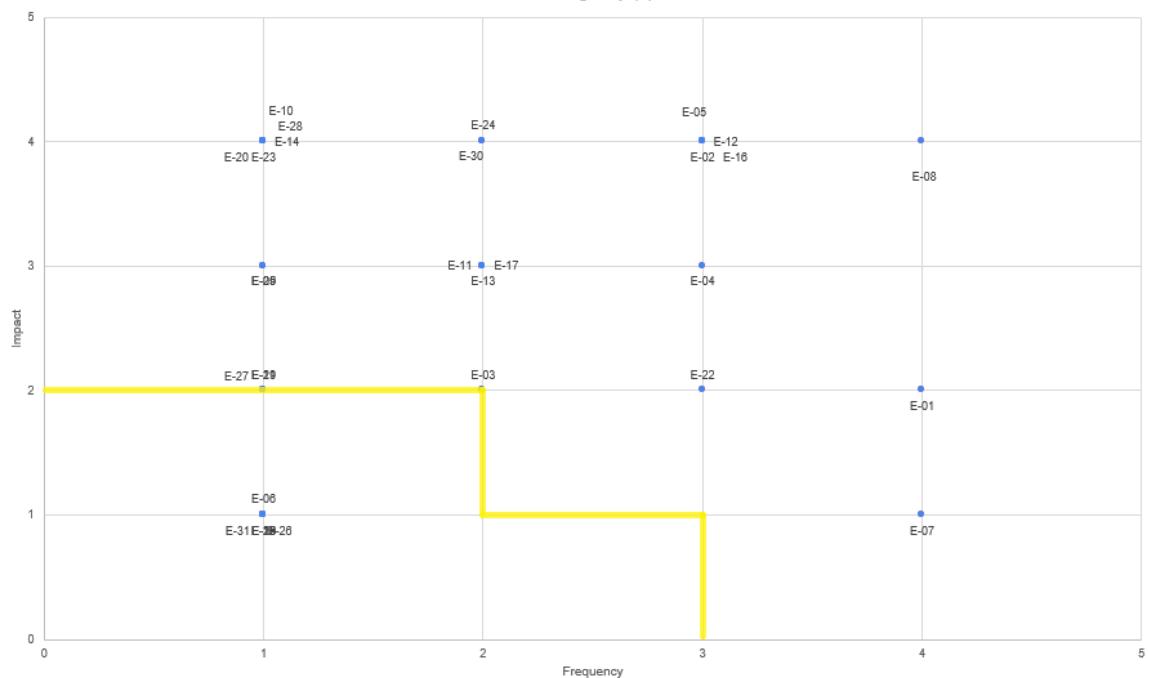
- 0 = I don't agree that this problem has impact on any of the tasks
- 1 = It affects only one task, where the task is marginal
- 2 = It affects more than one marginal tasks
- 3 = It affects only one task where the task is relevant
- 4 = It affects any of the subsequent tasks and avoids the achievement of the goal The assignment of the scores has been conducted following the same method as above.

Finally, the scores have been employed in building the curve of urgency. Here below we provide a graphical representation of the relevance of the errors on the use of the system that contributes in understanding which ones should be given higher priority of

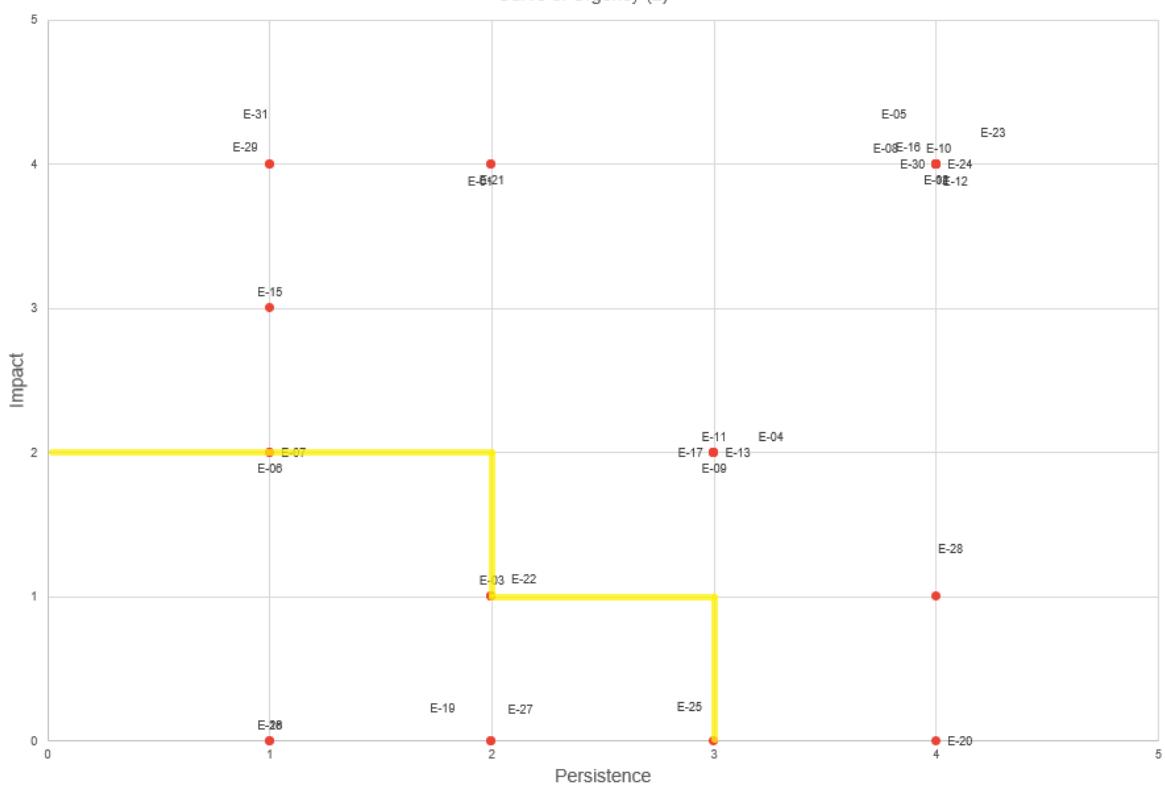
solution to. Our curve of urgency is based on the evaluation of the impact and the frequency of the errors. We set the severity threshold at impact=2 and frequency=3.



Curve of Urgency (1)



Curve of Urgency (2)



3. Feasibility study

3.1 Context of use

This section addresses the actual conditions under which our final design will be used: it is drafted on the basis of the data analyzed on the ethnographic researches and user testings, and stems from the already developed system analysis and identified factors that relate to the general use of the system, in order to provide a base for designing later usability testings.

In the following paragraphs intended users, their tasks and their various constraints in relation to our service will be presented and analyzed.

3.1.1 Intended users

The user segment we identified for this platform are adult women from 50 to 70 years old. From what was apprehended from ethnographic researches and previous literature, most of them will present the following characteristics: they can live either in Italy or abroad and their native language is Italian, even if they could go from basic speakers to fluent in other languages such as french, spanish, deutsch and mostly english; their general level of instruction goes from medium to very-high, with a majority of users that completed high-school or university; they mostly work for companies, public institutions or own their own business or just retired from such jobs.

Nonetheless we aim at enlarging such an audience to women coming from any social background, also due to the leveraging of socioeconomic differences related to middle-low classes of our target generation.

They need to be generally open minded and well integrated in their social environment.

They use the internet everyday, but mostly for leisure and work related tasks: they prefer using mobile phones for the first and computers for the latter. They sometimes buy online, both products and services, but mostly items perceived as unreachable in their local sphere and either in a low price range or belonging to highly trustable channels. They prefer widely renewed e-shops and platforms such as Amazon and Netflix and basically distrust both their capabilities on using the net and online security services.

They should already have experienced or still be experiencing menopause and they are either single or in some kind of relationship. They can either be sexually active or not

and they show various feelings towards their sexual and love life: desire decline and body changes are faced either with acceptance or frustration, leading to avoidance of sexuality or the discovery of new tricks to maintain a pleasant and stable activity. They also have a feeling of necessity towards self and body care and are actively drawn to it, but barely manage to find space in their daily routine for practices such as meditation, yoga or more time-taking activities, preferring to rely on skin products, supplements or less demanding activities for their well being.

3.1.2 Tasks

In the paragraph devoted to the task analysis we already analyzed the tasks perceived as fundamental in order to achieve a complete understanding and employ of the services offered by the website.

A list of the highlighted tasks, in order of importance in the usage of the platform, is reported below.

1. Finding "My secret case"
2. Adapt the website filters
3. Reaching the dedicated section of the website
4. Retrieve information regarding a specific category of sex toys
5. Retrieve information regarding a specific item
6. Buy a single item (this includes all-in-one packages)
7. Register to the website
8. Read the sex-toys handbook
9. Read an article on the blog
10. Ask a question on the blog
11. Return an item

3.1.3 Technical constraints

MySecretCase is an online shop, therefore the user must possess a device (e.g., a smartphone, personal computer or tablet) able to access the internet as well as an internet connection.

In order to access the website there is no requirement for authentication, not even for completing the buying process, but if you possess an account it is possible to avoid compiling the "Shipment" and "Payment" sections at the checkout.

In order to perform online payments, the user must possess a credit or debit card habilitated to online payments, or a paypal account.

3.1.4 Cultural constraints

The user must be sexually aware of him/herself, and able to perceive clearly his/her sexual needs. The user must also be capable of understanding how the products work in technological terms, detaching her perception of sexuality and pleasure from the practical issues related to the toys; she must therefore be well acquainted with small electrical objects and their maintenance.

The user must also be open minded and curious towards different ways to experience sexual pleasure and willing to invest in new experiences, both emotionally and economically.

Finally, in order to accept and cherish the funny and direct style of the platform, the user must address this service with a similar mindset of emotional joyfulness and mental clarity towards what she is looking for.

3.1.5 Environmental constraints

Given the colorful and non discrete appearance of the website a private environment is required to access the service, being sexuality normally considered as a private issue.

3.2 Scenarios

Scenario 1: Quarantine alone

Who: Luisa

Where: at home

With whom: her two cats, Frittella and Struffolo

With device: tablet

Luisa has not been feeling so well in the last 2 days: her temperature rose and she has been experiencing some fatigue in her daily activities. She has decided to buy a Covid-19 rapid test and it came out positive, so after informing the people she had been in close contact with in the last week, she checks her food supplies, orders some she could need from her favorite supermarket delivery service for the day after, and is

now relaxing on her sofa with her tablet, scrolling through her Facebook feed. She lives alone with her two cats and retired just some years ago, so she is becoming acquainted with the idea of using this time to get some complete relaxation: after all she is not feeling so ill, but some rest seems deserved.

While she is thinking about a new Netflix series to keep her busy in the following days, a particular post catches her eye: the woman in the picture looks like a smiling, healthy version of herself, and the tagline promises good relaxing times and self-care. She follows the link proposed in the post and ends up on "MySecretCase - Venus", a website that, at first sight, seems to be promoting sex toys for elderlys. The idea engages her, and the sober and simple design reassures her fear of being swindled by web frauds. She starts reading the descriptions in the homepage and gets involved with the idea of taking care of her body and mind also through the use of a sex toy: after all she is now single and misses the pleasure of falling asleep after a satisfactory intercourse, relaxed and at peace. She reads somewhere that orgasms can favour deep sleep, and while thinking where it might have been she notices a blog button on the website and starts navigating through the articles: one is just about the benefits that keeping sexually active can have on both mind and body! In the article it is also suggested a package for women consisting of a toy and lubricant, and the simple design, the clear instructions and the good pricing and package anonymity convince her to order one and try it out. She adds it to the cart, completes the procedure with her prepaid card and is informed that the package will arrive in the following 48 hours: "I guess I will definitely be home" she thinks, and goes back to choose her series.

Scenario 2: Spice up couple life

Who: Gertrude

Where: at home

With whom: her husband, Stefano

With device: computer

Gertrude has just got home with the groceries. She loves Friday nights, it has become that moment of the week she spends with her husband Stefano, playing sweethearts, drinking some good wine and enjoying her cuisine without worrying about the scale the morning after; she always loved to cook, but only after retirement realized how much time she can go on doing it without feeling tiredness or boredom. She and Stefano spend dinner talking about the past week and planning what to do after eating, opting for a home-cinema night; now that they are free from work duties they enjoy spending time together even more, but have also decided to catch up on some hobbies abandoned long ago. They are still deciding what to watch when Stefano proposes an old movie they saw when they were still engaged, and immediately starts to recall all

the funny and crazy stuff they did when they were younger, with a subtle nostalgia of the first years together. They still love each other very much, but they lose, as it normally happens, that sparkle of sexual tension they had 10 years ago, and also sex has become less entertaining and more demanding as years passed, with all the backpain and shortage of stamina they took with them, and now they simply enjoy to share moments of everyday life with each other: but tonight is their special night, so maybe, just maybe, they could make a small exception and think about something out of the lines, for once. Stefano saw just the day before an advertisement that definitely regarded “enjoying yourself” with an old couple as testimonials, and he recalls the name of the company as being “MySecret-Something - Venus” so they Google it to see if there are some kind of advices or shared experiences on how to spice up a couple night after, well, “a certain age”: at the second try he recognizes the testimonial and exults as they got on the right website. After adjusting the filters to enlarge characters, they notice a section dedicated to couples, so they start exploring it, getting more and more excited and revealing on the idea of being doing something “a little crazy”: even if they do not know exactly what they are looking for, the website describes concisely and clearly everything they alternatively point at exclaiming “And what is that one again?”. At the end they decide to order a simple toy for the pleasure of both and, after checking once again in the reviews about sizes of buttons and ease of use, they put it in the cart and complete the payment. Still giggling on the idea of the next Friday they turn on their tv and blu-ray reader and hug on the sofa while the film begins.

Scenario 3: After work stress

Who: Barbara

Where: on the bus

With whom: strangers (mostly commuters)

With device: smartphone

It's half past six and Barbara has just got herself on the bus, ready for her 45 minutes commute to get home after another day of work. She is not properly tired, not physically at least, but her head feels very heavy and her brain “left for anticipated retirement”, as she likes to call it. This time is her pause from whatever duties she comes from or is going to, her 45 minutes of peaceful detachment from the world, and as retirement gets closer she enjoys it more everyday: it looks as a prelude to the diluted times her life will have once working hours will be left behind. She sits in the lateral seats, gets out her headphones and puts her favorite playlist up, while looking at her smartphone notifications: one of her friends tagged her in a post, so she checks what it is about. It looks like a contest by “MySecretCase - Venus” to win some kind of self-care products plus a day out with your loved one; her friend is single, and in the

post she suggests to be “each other’s partners” with a bunch of emojis and “LotOfLaughs”.

She decides to open the link in description, just to understand what they are talking about, and finds herself in a blog-like webpage, opened on a article about the needs and benefits of sexual activity as a way of releasing daily stress: the contest banner stands on the top of the page, showing some sex toys and people in bathrobes smiling and cheering in some kind of spa. She has nothing better to do, so she reads the article, and finds it really entertaining, well written and informative: it is about the benefits of routinary sexual pleasure on the brain and body, and the good effects of “taking some time for one’s own wellness” by using different kinds of sex toys to relax, enjoy yourself or “keep your genitals in good shape”. In particular she finds it very attractive, for the simple design and small dimensions, one of the toys presented in the article, and after reading some reviews about the pleasure of using it to “release daily stress” and “enjoying your half an hour of selfcare” decides to order one. She puts it in the cart, completes the payment and then closes the shop window. Now she can comment on her friend’s tag “Lol, fingers crossed” while thinking about her newly acquired after-work stress release.

3.3 Personas



Name	Luisa Bellini
Age	63
Gender	Female
Marital status	Widowed
Family status	One son and one grandchildren
Location	Montefiascone
Job	Retired
Education level	University
Income level	\$28.000 per year
Driving License	Yes
Language	Italian and French

Personality type	Sexual habits
<p><u>Personality</u></p> <p>Luisa is a calm and smart woman. She worked all her life as a highschool french teacher and loved the possibility offered by her job to pass knowledge to others: in her last years at work she engaged in afternoon activities and laboratories for students who wanted to improve their language skills and accompanied at least a class per year to abroad school trips. She is patient and loves to learn new things, and since she retired she started cooking and practicing yoga to ease her leg and back pain.</p> <p><u>Strengths</u></p> <p>Patience Curiosity Intelligence Calm</p> <p><u>Weaknesses</u></p> <p>Perfectionist Stubborn Difficulties in expressing emotions Shiness</p>	<p><u>Relational history</u></p> <p>She has been married for 30 years and 6 years ago her husband passed away from a heart attack. They knew each other since they were young and moved together at the age of 25, one year before marriage. They shared interests in culture and arts and had a routinary and satisfactory sexual life.</p> <p><u>Relational situation and libido</u></p> <p>She has been single since her husband's death and never even thought about remarrying. In the last year she met a man in her yoga classes and started going out with him once or twice a week, but their first sexual intercourse left her unsatisfied. She still feels desire for sexual activity but her body changes make her feel uncomfortable when other people are involved, both because of her new needs and the esthetical changes that came with age.</p> <p><u>Physical and psychological issues</u></p> <p>Uncomfortable with sexual intercourses Vaginal dryness Back pain Visually impaired</p>
Technological attitudes	Needs and goals
<p><u>Online behavior</u></p> <p>Luisa uses her smartphone everyday to keep in contact with her family and especially her grandchildren through messaging apps, and also loves to follow her friends on Facebook. She finds Google very useful to learn about new things and recently started to use Netflix on a family account, with the help of her</p>	<p><u>Personal</u></p> <p>She wants to keep healthy and mentally active. She tries to keep reading a book every week, sometimes in French to keep her language skills trained, and, when she gets tired, finds something interesting on Youtube or Spotify to listen to. She puts a lot of effort into yoga in order to relax and also exercise and stretch her</p>

son to connect her tv and tablet and watch new movies on a bigger screen. She was also included in her family Spotify account and has a couple of playlists that she created for her everyday activities. She uses Youtube to watch videos about her favorite activities such as yoga and cooking, follows a couple of channels devoted to arts and culture and recently discovered audiobooks on the platform.

Platforms and apps

Whatsapp
Facebook
Google
Netflix
Youtube
Spotify

body, practicing half an hour everyday. She loves to have the feeling of still caring about her mind and body wellness.

Relational

Luisa loves being a grandmother and really likes spending time with her family. She has been feeling lonely in the last year and misses sharing everyday moments with someone, but at the same time, when thinking about the issues of dating at her age, feels content on her own. She would like to develop a deeper connection with someone but is neither searching nor waiting for the right person; if it has to happen, it will happen.



Name	Gertrude (and Stefano) Moretti
Age	67 (and 65)
Gender	Female (and Male)
Marital status	Married
Family status	Married with two grown-up kids
Location	Roma
Job	Retired
Education level	High-school
Income level	\$22000 per year (+ \$25000 per year)
Driving License	Yes
Language	Italian

Personality type	Sexual habits
<p><u>Personality</u></p> <p>Gertrude is a lovely and funny woman. She and her husband Stefano live together in Rome, Tomba di Nerone, where they moved when she was young and he opened a laundry shop. She has always worked there and, because of her sunny personality, took care of the client's services. She loves to take long walks on the weekend and misses camping as they did with the kids when she was younger. Now that their oldest son takes care of the laundry shop, Luisa still likes to help every now and then to keep her busy but understands her family would like her to let them do things on their own: she has been thinking about getting a camper to travel the world while they still can, but has not yet found the time or occasion to tell Stefano.</p> <p><u>Strengths</u></p> <p>Enterprising Creative Energetic Good-hearted</p> <p><u>Weaknesses</u></p> <p>Stubborn Impulsive Short tempered Careless</p>	<p><u>Relational history</u></p> <p>Gertrude and Stefano married when they were respectively 22 and 20 years old. They have always been together and, even if they had their ups and downs, they still get along pretty well. She does not believe in soulmates, but in hard-work and commitment, that allowed her marriage to keep working even after all these years. Now that they are getting closer to 50 years together she would like to do something fun with their life earned money, maybe to travel a bit before they get too old to be around on their own.</p> <p><u>Relational situation and libido</u></p> <p>She has sometimes thought about spicing up her sexual life during the years, but she has to admit that in the last times routine does not bother her as much as it did before. She started suffering some pain during daily activities and her intercourses with Stefano have become less and less fulfilling and more demanding; she does not want to interrupt their physical connection but the mere act has become cumbersome and they are having trouble enjoying it. In the last time she started worrying about the fact that maybe they should just give up and find something else to do to substitute for their sexual life.</p> <p><u>Physical and psychological issues</u></p> <p>Vaginal dryness Arthritis Visually impaired</p>
Technological attitudes	Needs and goals
<p><u>Online behavior</u></p> <p>Gertrude mostly uses the internet</p>	<p><u>Personal</u></p> <p>Gertrude really wants to enjoy her last</p>

through social networks, in order to follow her friends and family online. She also learned how useful online shopping can be, and loves to order, on a monthly basis, dresses on Zalando to keep on track with the latest trends and feel good about herself. She and Stefano also have a subscription on Amazon Prime video, and her husband uses the internet also to order musical items from Thomann.

Platforms and apps

Amazon Prime Video
Zalando
Facebook
Whatsapp
Thomann

years of wellness, traveling the world and enjoying life with her husband. She would really like to make new experiences and friends and express her personality outside her daily routine.

Relational

Gertrude and Stefano raised their kids with the possibilities they did not have: Mauro and Adelaide both went to university and had the chance to follow, if not their dreams, at least their own decisions. She would really like to see their grandchildren grow and share with them beautiful stories and experiences, and she is happy that now the family business is under the care of Mauro: she hopes to be able to help if any problem should arise and with her husband they saved some money in order to supply for family emergencies.



Name	Barbara Marinelli
Age	54
Gender	Female
Marital status	In a relationship
Family status	One sister (younger)
Location	Grosseto
Job	Psychologist
Education level	PhD
Income level	\$37000 per year
Driving License	Yes
Language	Italian and english

Personality type	Sexual habits
<p><u>Personality</u></p> <p>Barbara is a curious and caring person. She always liked to understand other people and that's the reason why she decided to become a psychologist: that and the fact that she always wanted to work alone but in contact with others. She is not lonely, but enjoys being on her own and prefers going out with a smaller group of friends instead of being surrounded by other people: she is conscious of her need to take some time to relax and reflect, and is known for her shameless "No thanks". She tries to perform "Critical consume" buying mostly through a local "GAS" and she has been a vegetarian for more than thirty years.</p> <p><u>Strengths</u></p> <p>Self consciousness Curiosity Empathy Kindness</p> <p><u>Weaknesses</u></p> <p>Opinionated Impetuous Lazy Control maniac</p>	<p><u>Relational history</u></p> <p>Barbara had some long relationships in her life, although she has never been married; she always thought of herself as bisexual, even if in the last period she feels more attracted to women. In the last few years she has been with the same person, but the story doesn't seem to be going anywhere and Barbara is starting to feel the urge to build a solid bond with someone to maybe get old with.</p> <p><u>Relational situation and libido</u></p> <p>The current situation of uncertainty frustrates Barbara, but she always prefers to express her feelings and is waiting for the right time to tell her partner she wants something more stable and propose to move in together. At the same time she feels pretty confident about their relationship, and she feels a strong physical connection with her girlfriend; she hopes to be able to build a tighter and deeper emotional and spiritual side by opening up completely and taking some steps and responsibilities first.</p> <p><u>Physical and psychological issues</u></p> <p>Endometriosis Visually impaired</p>
Technological attitudes	Needs and goals
<p><u>Online behavior</u></p> <p>Barbara uses online platforms everyday, both for work and leisure. She has an account on all the major social networks, Facebook, Twitter and Instagram, and also uses MioDottore and her personal website to share information about her</p>	<p><u>Personal</u></p> <p>Barbara is really proud of her ability to be in contact with other people and their inner world, but she aims at becoming more and more capable of opening up to others. She is continuously working on herself, in order to keep informed about</p>

work and keep in contact with clients. She has an account on Spotify and Netflix, along with Storytel for audiobooks. She does not use Amazon a lot, for environmental and political choices, but prefers smaller shops or to buy products from physical vendors on eBay.

Platforms and apps

eBay
Netflix
MioDottore
Spotify
Storytel
Facebook
Instagram
Twitter

the world around her and make the best possible choice for her wellness and the well-being of her ethics.

Relational

Barbara would really like to be able to teach to others; in her work this is possible through seminars and abilities that would allow her to be able to become herself a teacher in such occasions. She is also working towards the construction of a shared home with her partner and her mindset about the idea of moving in together at her age.



Name	Christiane Vitti
Age	58
Gender	Female
Marital status	Divorced
Family status	Three kids
Location	Firenze
Job	Bank employee
Education level	Bachelor degree
Income level	\$28000 per year
Driving License	Yes
Language	Italian, french and english

Personality type	Sexual habits
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<p><u>Personality</u></p> <p>Christiane is a hard working, independent woman. She had moved from France to Italy when she met her ex-husband, Giacomo, during one of his work trips and they fell for each other: two years later they had moved to his house in Siena and five years later they were married. They had been together 20 years, had three kids, but then Giacomo started cheating on her and she left him and moved to Florence, where she started a new life. Her younger daughter came with her to start university in Florence. She is strong willed and very determined, and, now that she is almost alone again, is experiencing a beautiful feeling of freedom. She got back a lot of time and is now able to spend some reading and mostly painting.</p> <p><u>Strengths</u></p> <p>Strong willed Resilient Autonomous Resourceful</p> <p><u>Weaknesses</u></p> <p>Square minded Unable to ask for help Easily angered Impulsive</p>	<p><u>Relational history</u></p> <p>She has been married over twenty years and went through a bad divorce, that left her scarred with the fear of engaging so much in a relationship again. She was too trusting and naive, and feels that maybe if she had reflected more before jumping in her first marriage things could have gone differently.</p> <p><u>Relational situation and libido</u></p> <p>She does not feel attracted to the men she met: there have been few occasions, at work mostly and once in a bar with her friends, when she could tell someone was looking at her with interest, but the thing was not reciprocated. She feels still a sexual impulse every now and then but she manages to put it down doing something else and is waiting for them to disappear.</p> <p><u>Physical and psychological issues</u></p> <p>Fear of commitment Vaginal dryness Visually impaired</p>
<p>Technological attitudes</p>	<p>Needs and goals</p>
<p><u>Online behavior</u></p> <p>Christiane mostly uses the internet at work with her company applications at Generali. She doesn't like to spend anymore time on the internet when she gets home, but she nonetheless scrolls sometimes through her Facebook account to see what her friends are doing. She also subscribed to Amazon Prime when she had to renew some stuff</p>	<p><u>Personal</u></p> <p>Christiane has a strong need for independence: she has been a caring mom, but now that her children became adults and her husband doesn't bother her anymore, she would like to take more time for her wellness and personal needs. She started painting and has rapidly improved in the last two years, but she would also do some sport to keep her fit</p>

<p>in the house and now uses it every time she needs something and is unable to find it at first shot in her favorite shopping mall.</p> <p><u>Platforms and apps</u></p> <p>Amazon Facebook</p>	<p>and give her back some body positivity. She aims at being the best possible version of herself.</p> <p><u>Relational</u></p> <p>She is very proud of her work as a mother and is now willing to be a good grandmother for her children's offspring. She would like to be present in some ways but mostly inspire and guide them.</p>
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	<table border="1"> <tr> <td>Name</td><td>Alice Facchinelli</td></tr> <tr> <td>Age</td><td>32</td></tr> <tr> <td>Gender</td><td>Female</td></tr> <tr> <td>Marital status</td><td>Single</td></tr> <tr> <td>Family status</td><td>Only child</td></tr> <tr> <td>Location</td><td>Urbino</td></tr> <tr> <td>Job</td><td>Tattoo artist</td></tr> <tr> <td>Education level</td><td>Bachelor degree</td></tr> <tr> <td>Income level</td><td>\$22000 per year</td></tr> <tr> <td>Driving License</td><td>No</td></tr> <tr> <td>Language</td><td>Italian and english</td></tr> </table>	Name	Alice Facchinelli	Age	32	Gender	Female	Marital status	Single	Family status	Only child	Location	Urbino	Job	Tattoo artist	Education level	Bachelor degree	Income level	\$22000 per year	Driving License	No	Language	Italian and english
Name	Alice Facchinelli																						
Age	32																						
Gender	Female																						
Marital status	Single																						
Family status	Only child																						
Location	Urbino																						
Job	Tattoo artist																						
Education level	Bachelor degree																						
Income level	\$22000 per year																						
Driving License	No																						
Language	Italian and english																						

<p>Personality type</p>	<p>Sexual habits</p>
<p><u>Personality</u></p> <p>Alice is creative and strong-willed; she is the owner of her own destiny and is determined to keep things this way. She moved to Urbino with three friends and she started her bachelor degree in literature, fell in love with the world of</p>	<p><u>Relational history</u></p> <p>Alice spent her university years without a stable relationship, moving from partner to partner and free from the need of building a serious relationship. She is now looking for someone serious, but is not putting too much effort in it.</p>

tattoos and, as soon as she had put some money together with salutary working experiences, she studied for her abilitation and started working at home. Now she has a studio with five other colleagues. She loves her work and thinks of it as a way to express herself, and is really close to her mother, which, even if not without doubts and critics, sustained her for the whole process. She maintained a love for reading and cinema from her studying years and often watches movies even outside, on her own, just for the pleasure of doing so.

Strengths

Creative
Determined
Passionate
Loving

Weaknesses

Overconfident
Not very emphatic
Lonesome
Short tempered

Relational situation and libido

She started her quest for the right person, and in the meantime she is enjoying the journey, allowing herself with some stops and brief intercourses along the way. She feels sexually satisfied and at peace with herself.

Physical and psychological issues

None

Technological attitudes

Needs and goals

Online behavior

Alice mostly uses Instagram and TikTok for her online presence as herself and as her artistic alias, "aliceinnowhereland". She also shares a Netflix, Amazon Prime video and Disney + account with her housemates and also uses Audible a lot. She buys clothes on Shein and loves to order food from JustEat and UberEats.

Personal

She would really like to open her own tattoo shop and make it a space for other people to learn and grow. She would also like to participate in bigger events than the one she is currently invited to and maybe show her work to some bigger artist to get them to advise her and sponsor her creations. She aims at putting together enough money to buy a small house of her own.

Platforms and apps

TikTok
Instagram
Netflix
Amazon (Video and Audible)
Disney +

Relational

She would like to have more time to read and cultivate her passion for cinema, maybe sharing it with someone else. She

Shein JustEat UberEats	would also like to have the economic possibility to attend higher level courses to improve her artistic skills and set up a crew on her own.
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4. Design proposal

4.1 Design model

We analyzed the results obtained through previous research and came to the conclusion that the best possible way to adapt the information and services present on “MySecretCase” for our target users, was through the realization of a dedicated section in the main website. The choice to realize a dedicated page-set will respect the logic organization of the website, just “enlarging” the concept of subsection, and will allow us to maintain the visibility and reliability offered by the platform in its current state, which is already implemented for smartphones and tablets, along with computer screens.

4.1.1 CAO=S design model

The main purpose of the CAO=S model is to allow a qualified but inexperienced team to avoid at least the most common errors in usability while designing applications, with a limited budget and scarce possibilities to directly involve a usability expert or analyze properly the user categories addressed.

The basis of this model lies in a simplified application of the goal-oriented model, based on a simplification of users categories, which allows the team to eliminate the main causes of poor usability and reduce the distance between the model as expressed by the system and the user's perception.

CAO=S is an acronym for Concepts, Actors, Operations = Structures: Concepts are the information present in the application and the ways in which the user perceives and comprehends them, and influence information architecture and presentation; Actors are the users able to interact with the interface, manipulating the Structures perceived as Concepts to reach their goals, and can be either direct or indirect; Operations are the actions performed by users on the interface by the manipulation of Concepts and can be of four different types, namely Creations, Reading, Modification or Elimination; Structures are the concrete organization of the project team' ideas about Concepts

upon which Actors perform Operations, and are of three kinds, Views, Data Storage and Navigation.

4.2 Information architecture

The main objective of I.A. is to organize, structure and label content in order for users to adjust to the functionalities of the product easily and effortlessly find everything they need: it is focused on relations between information items and their management as system parts.

The relevance of I.A. in the context of creating a new section of MySecretCase website is due to the large amount of information that needs to be provided to the user, not only in relation to products but also to services offered, to allow the fulfillment of their purposes and needs.

As highlighted through the user tests the most relevant and complex tasks reside in the composing of packages and the querying of the blog in order to find meaningful information. The steps required to perform these two tasks must be clearly identifiable and provided in a sequence coherent with the user's mental model. The company must also provide all the information useful for the intended users and at the same time make them accessible and easily retrievable through the main interface.

Therefore a proper I.A. is necessary both to develop an easily understandable package-composing and buying experience and to organize and display functionally information present in the blog, while still allowing users to enlarge it with their personal issue if needed.

4.2.1 Information ecology

The metaphor of Information ecology was developed by Davenport and Prusak to represent the connections between different digital product's aspects I.A. has to keep under consideration.

In particular it focuses on the relationship between Context, Content and Users of a system.

The Context

MySecretCase website, and therefore MySecretCase - Venus, is includable in the widest range of product's selling websites, sectorized in the sexual field and particularly reknown for their sex toys and their attention to accessibility issues. The public it takes

into consideration is mainly composed of young people with different sexual orientations and more or less specific needs: its users have slightly different scopes, all related to the acquiring or use of sex toys (or likely items) or the retrieving of information related to the sexual sphere, and also different technological and cultural constraints.

MySecretCase - Venus has a similar scope, but differentiated from the main resource for two main reasons: its target users and its focus on information features. The users will in fact be women who have passed their mid-age and the selling of products will need to be filtered by a simpler and specifically built, amount of information.

These are also the reasons why MySecretCase - Venus should ease the design to allow for the central aim and message of the website to be delivered clearly and directly, while at the same time the informative component and the accessibility features, already present in the main website, should be reinforced and adapted for an older target.

The Content

The “MySecretCase - Venus” page will need to manage all the information present in the main website, and also to adapt it to a different audience, namely elderly. This information can be analysed regarding different aspects:

- Volume: the volume of the content of the website will be high, considering the items (divided in categories), the guidelines for correct use of the toys and the various contents of the dedicated blog, comprehending articles and the “Ask a question to the sexologist” section; each category of items will present a description and the same applies to single items, with both pictures, a small explanatory video, and written explanations.
- Control: The data will be under the management of the company itself.
- Format: The data will be mainly provided in textual form, often correlated by images and videos. This is also comprehending a downloadable pdf version of the guideline to the toys. Also the dedicated blog will be structured around categories of articles, each correlated by visuals. The ‘Ask question to the sexologist’ will have the structure of a F.A.Q. section with the possibility to ask for your own doubts.
- Structure: The website will organize information in different granularity, from an all-round information about the resource in its integrity, to explanations about subcategories and single items. For each level the website aims at describing the items clearly and concisely, collecting in a textual and visual form their shared characteristics.
- Dynamicity: Most of the information provided by the website will have to be considered permanent (e.g. items,articles) while others could be included in

short-term and are subject to continuous changes (e.g. sales, prices, special bundles)

The Users

The users addressed by “MySecretCase - Venus” are heterogeneous for background and ethnographic profile, but share a common domain knowledge and technological attitude, being non-digital natives and mostly unaware of the domain itself.

What they share, beyond their individual needs and goals, is their positive attitude towards novelties and their attention to self-care, and indeed all of them have the desire to find a different way to sustain their well being and entertain themselves and/or their partner.

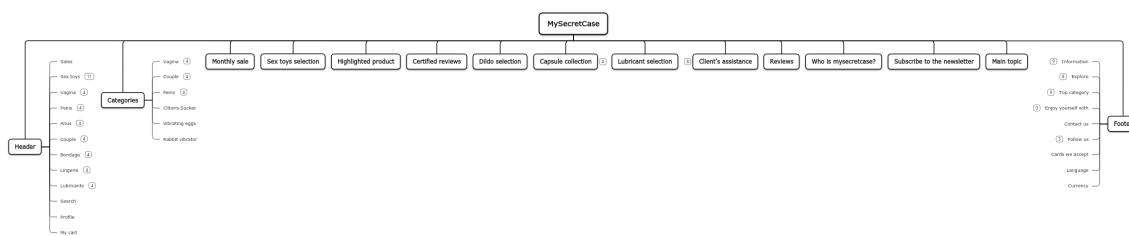
They also share a medium-high level of awareness of their bodies and relative changes, and a willingness to positively experience and embrace them, without renouncing to pleasure and intimacy, and MySecretCase - Venus also responds to these needs with both products and information services supplied by the blog.

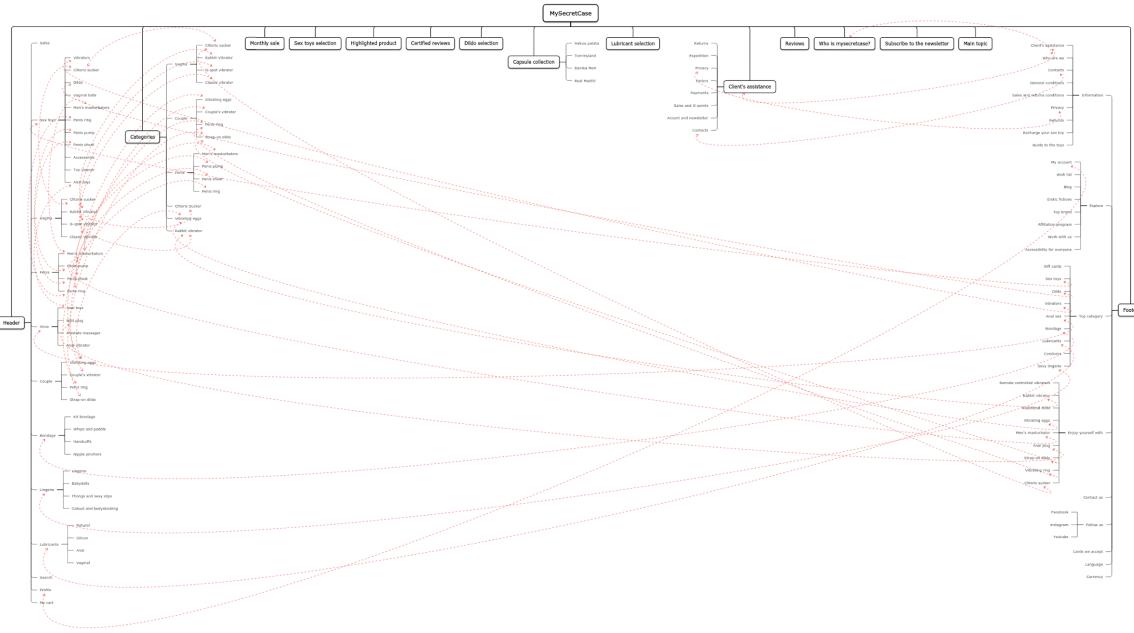
4.2.2 The approach to IA

The MySecretCase website approach to IA

Before proposing an approach to the IA of our application, we analyzed how the information is structured and organized in MySecretCase.

The current approach of the website seems classifiable as a top-down approach, with all the main sections reachable from the Homepage and then single items reachable from the sections. Also all the pages devoted to information services are reachable from the footer from every page. The blog is also divided into subsections collecting thematic related articles and the website is connected to the blog through the footer.



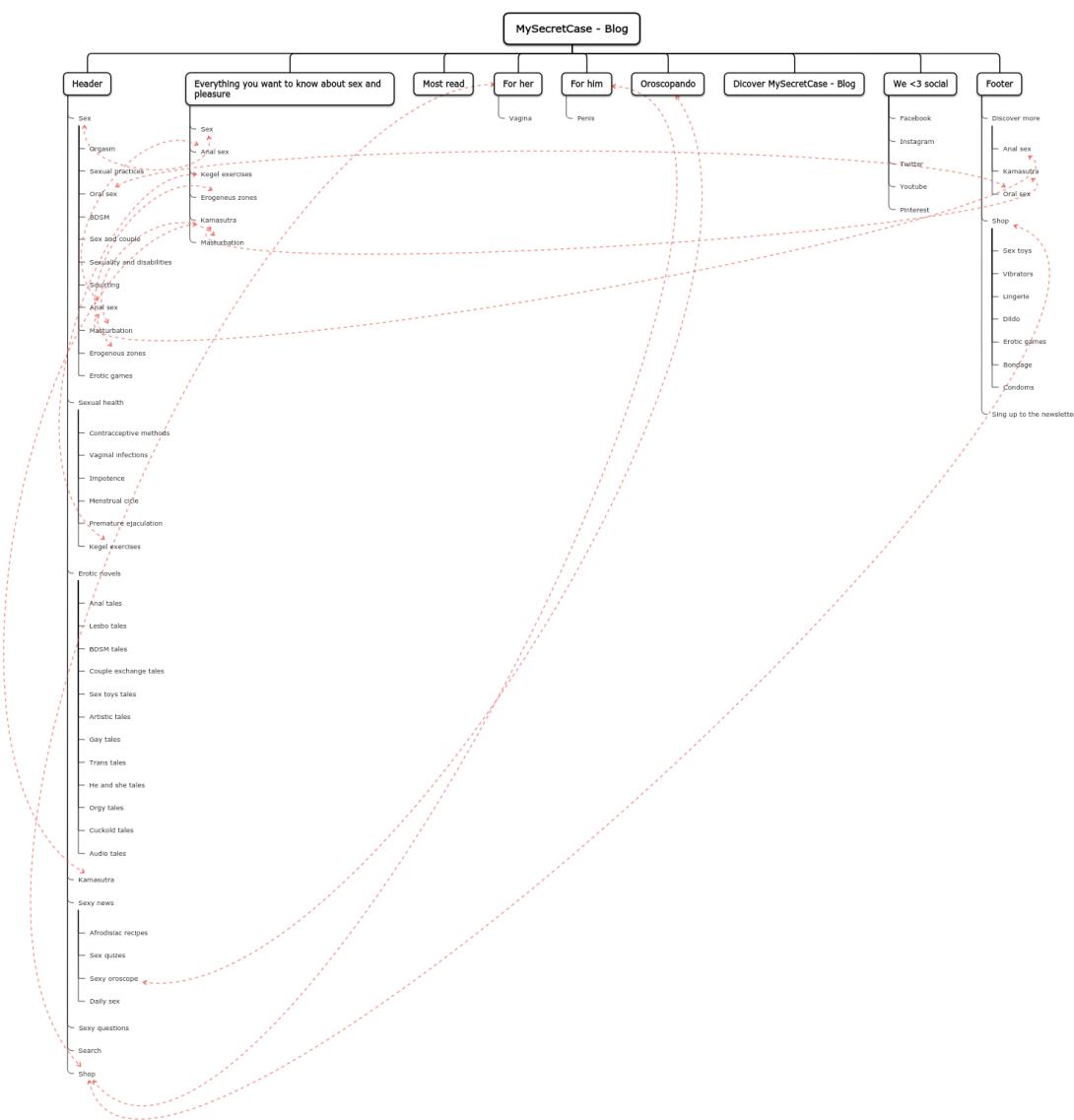
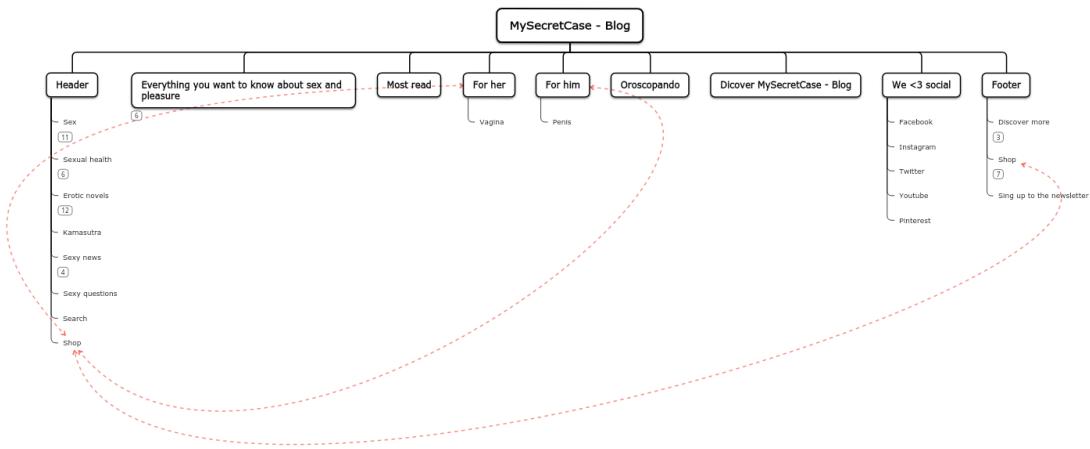


The deep structuring of the main page makes it difficult to find specific items such as the capsules collection, but the presence of the same connections throughout the page eases the chance to find what one is looking for while randomly scrolling through the home.

The role of each subsection is clear and the items in it are intuitively predictable by the user and the information needed to deepen the understanding of the items are always made available to the final user. We found only three main issues in the content organization:

1. redundancy can empower the functionalities of the website, but is sometimes confusing because not every functionality is presented multiple times;
2. the amount of information presented to the user can result overwhelming;
3. the colors and tones in which information is presented, although funny and entertaining, can appear a bit too much colorful and disorienting for domain-unknowing users;

The same applies for the blog, whose structure is displayed below.



My Secret Case Venus's approach to IA

The redesigning approach for MySecretCase - Venus aims at rooting in the actual website design, implementing a section devoted particularly to seniors, with a dedicated blog: the section will have a form inspired by the home, without the main issues highlighted above, while the blog will serve the same purpose as the one already present in MySecretCase, but will be devoted to issues of interest to middle aged women and older audiences.

We decided to adopt a top down approach for the designing of the IA and apply a clearly defined structure to develop in his smaller components step by step (or subsection by subsection).

Structuring

We first needed to determine relationships between our data, and the context, in order to structure them accordingly, mostly because MySecretCase - Venus will need not only to incorporate most of the information present on the main website about products and services, but also add specific ones related to our target.

Particularly, it will need to provide information about:

- Products, maintenance and use
 - Products categories
 - Products descriptions
 - How to use products
 - How to return a product
- Sexuality, aging and health
 - Articles on the blog
 - Sexologist section
 - Forum
- Accessibility

Organizing

We then needed to structure our information in sections which need to be coherent with both MySecretCase main website and the information we decided to present in addition to what could also be found in our reference interface, keeping in mind the differences in addressed user's mental model. To do so we decided to divide the information in meaningful categories with respect to users goals:

- Buying a toy or package: they need information about categories of toys, items' sizes and uses, maintenance and ergonomics, price and materials;

- Getting information about sexuality and health: they need to find information about their sexual and relational situation, advices on how to manage possible difficulties in their intercourses, toys and packages suggestions;
- Getting advice: they need to be able to ask anonymously their question to a sexologist and confront with others in the forum;
- Visualize the website accordingly to their needs: they need filters information and an eased setting;

Classifying and labeling

We then decided to categorize and group these components in a way that was clearly labeled. We reached these final definitions:

- Sex toys and packages
- Sexuality and well-being
- Sexologist and forum
- Accessibility

Making findable

In order for the previously defined information to be found we needed to add an element of predictability to their position in the interface. We developed [...] different sections in the homepage and [...] in the blog, which visibility was strongly enhanced, each identified by a specific role, allowing the user to navigate the content with ease.

In each section of the shop we maintained the structure of the main website, allowing the user not only to find products but also meaningful information about them, but positioned them in a single block (instead of the sparse order of the main website), avoiding overloading attention with more than one video and substituting the palette with a less bright one. The pages layout is also composed of less and more easily identifiable elements without the need for the user to use contextual navigation or scroll to the end of the page to assure nothing remains to check.

Navigation

The navigation of the reference interface was, as previously outlined, redundant and dispersive. Thus the user would end up anyway finding what she was looking for but is left with the doubt if there was a smarter or faster way to reach it, and sometimes is obliged to get to the bottom of the page to access useful content present only in the footer: this would not be an issue if it wasn't for the size of the pages themselves which present a vertical and verbose structure, filled with information both redundant and not.

The structure we wanted to impose on our information was more concise and dense, ordering elements logically in the interface and avoiding repetitions, except in the footer itself: the order and size in which information is presented will give the hierarchical structure to the page.

Search

The main difference between our interface and MySecretCase main webpage is in the specific needs and desires addressed by the first, devoted to a specific target that needs to be stimulated and guided by and through the content of the website.

The structure of the website allow facilitated researches through existing categories, and the same applies for articles top-down categorization in the blog, but nonetheless we maintained the search bar present in the main interface: also, adding the possibility to create packages of toys and lubricants or other toys, we created a dedicated interface that should suggest items for the package on the basis of already selected ones.

Also the forum will have a categorization for topics and search bar.

Each step of the research is also enriched with aids to guide and accompany users in selecting items, trying to anticipate his needs.

Making manageable

One of the main things we wanted to focus on was the possibility not only to understand where to look for needed information, but also to make it usable once retrieved: this was achieved by an easily understandable and compact structure of each of the subsections. The visibility of the main information and services available was enhanced and divided in separate blocks; tasks were divided in sub-tasks for each of the steps involved and each of the mandatory and sequential steps was simplified as much as possible.

We particularly focused on the two processes of buying a sex toy (or package) while acquiring all needed information about first categories and then the specific selected item on one hand, and on the other on the informative processes related to the wider realm of sexuality and well-being after menopause. These are both eased by the presence of the accessibility filters, and the simplification of their selection by the creation of a specific one for enlarging characters and simplifying the visualization.

Encouraging serendipity

In conclusion we wanted to provide more than the mere results of one research, giving them context and facilitating the discovery of useful and unexpected things.

We encouraged serendipity by presenting items in the blog's articles and articles in the items sections, and linking comments and discussions from the forum and sexologist to the items sections. We also made use of the "You may also like" and "Create a package" slideshows to suggest similar or related items to the customers, which could in turn, be related to different informative sections.

4.3 CAO=S model

4.3.1 Concepts

The Concepts in the CAO=S model framework represent the way in which users perceive and comprehend the information, and it is independent of the way it is stored in data structure.

The information is deduced from the basic requirements collected in the field's analysis; operations on the concepts (and not functions on data structure) must be indicated by the interface; the user's understanding of such operations is what allows for usability errors to occur which must be resolved by designers. Errors can be of different kinds:

- Standardization problem: actors and team or direct and indirect actors use different words to express the same thing. Here the words used by Venus are either the same or strictly related to the ones in MySecretCase, so that the relationship is unmistakable, but closer to the lexicum and way of expressing themselves of the target audience.
- Lexical differences: different kinds of actors use different words to express the same concept. Although the application under consideration sells products, it is our concern to find a nomenclature that is both relatable to the mood of the original website (e.g. "Tu mi fai girar" for a vibrator with a rotating end, "Favolove" for a realistic dildo and so on), choosing items names from past century pop culture such as italian folk music and blockbuster movies, that should, with the help of labels and images unproblematically allow us to avoid misunderstandings. For what concerns the naming of everything else we will choose words that are straightforward and free of possible misunderstandings.
- Conceptual differences: same words used by different actors to describe different things. It is possible that, due to the different shapes and possibility of uses of the items in question, some could borrow the same name but indicate

different objects (e.g. “Dildobaleno” is classified as a realistical dild although it is painted in rainbow colors, “Flamingo vibrating bullet”is classified as a vibrating egg, although it also is a clitoris stimulator and so on), although they could unproblematically be presented in both the sections relative to their multiple uses. Nonetheless the constant presence of images could lower the impact of such issue even inside single categories where the description block present at the top of the page will help clarify what the website is referring to when using a distinct naming.

- Polysemy: the same word is used by the same actors to describe different things. In order to solve this issue we will avoid as much as possible the use of polysemic words but, nonetheless, it could arise the same situation described above in the case of expert users calling different items with shared connotation under the same name: in this case the category description provided by the website should help clarify at least the characteristics considered by the designers when classifying content.

4.3.2 Actors

Actors are the users who act on the application interface to perform their tasks through the manipulation of the data structures they perceive as concepts: they can be divided into direct and indirect actors, depending on the role they play within the application.

Direct actors are those that will personally use the system, divided in roles and given specific role names; indirect actors are connected to the specification of system features but will not use it themselves.

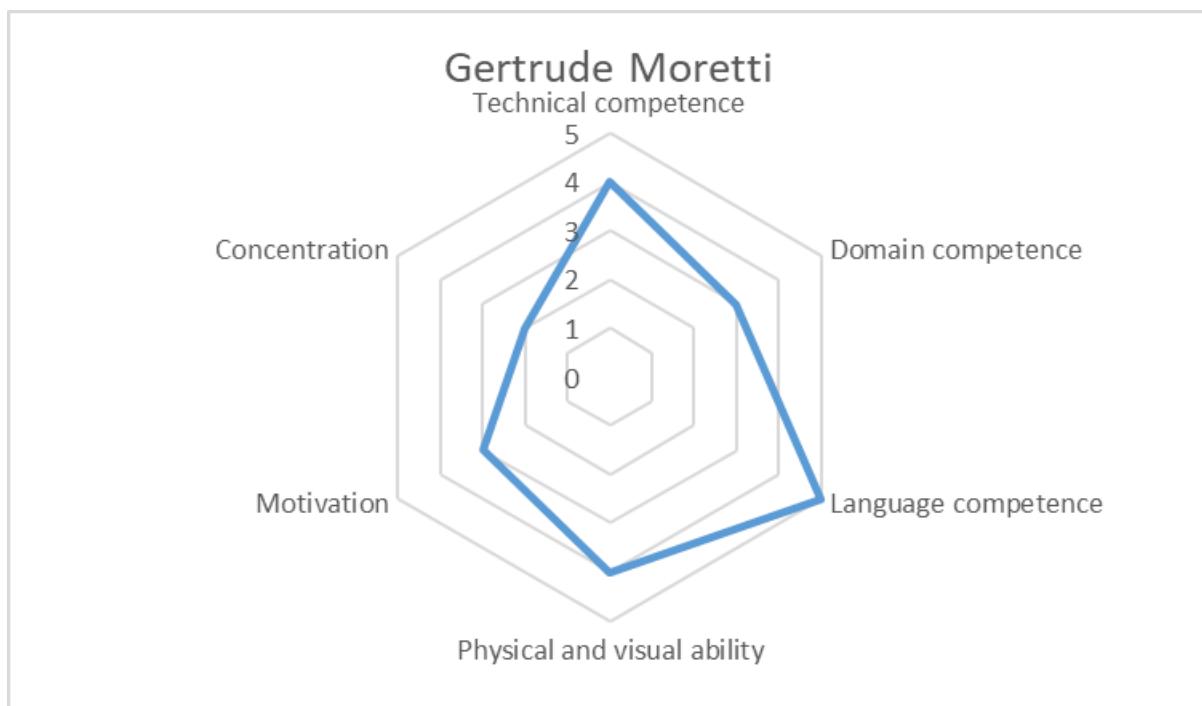
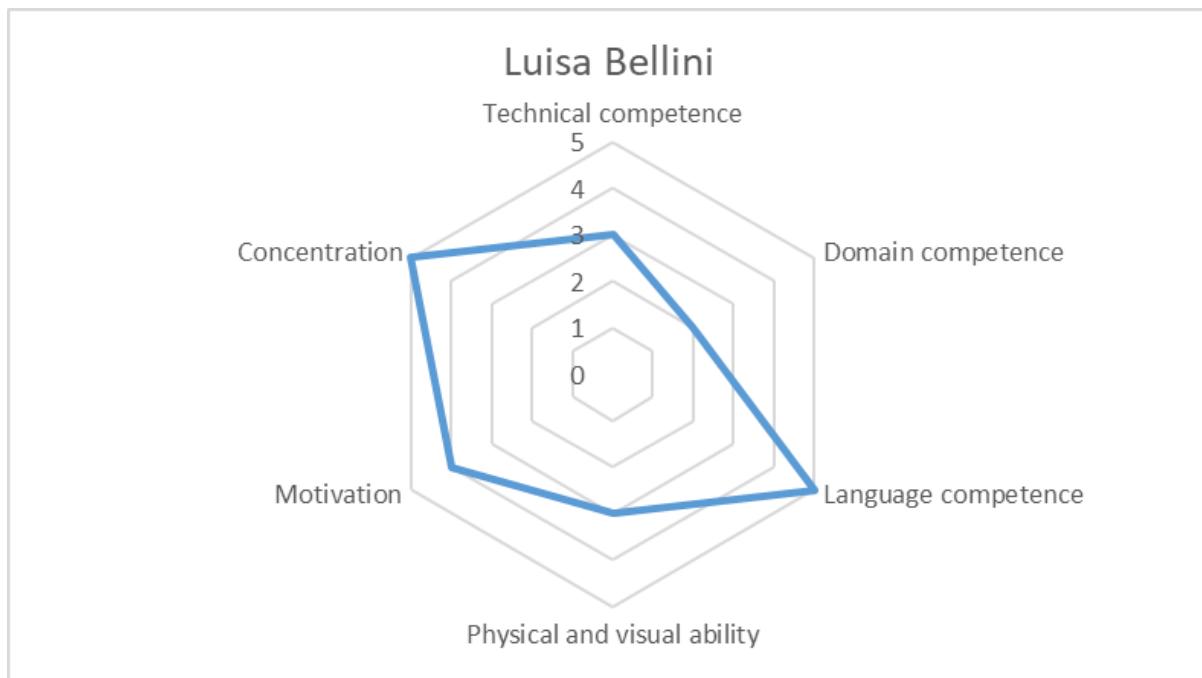
Actors are described through six essential characteristics that impact on both the interaction and the implementation of the system, whose values can vary from 1 (very low) to 5 (very high).

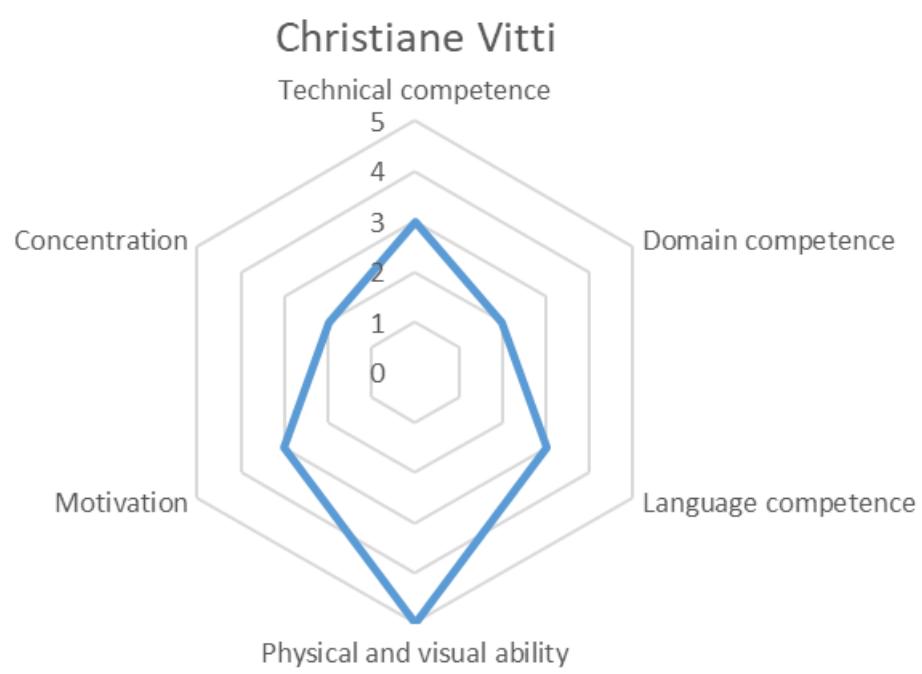
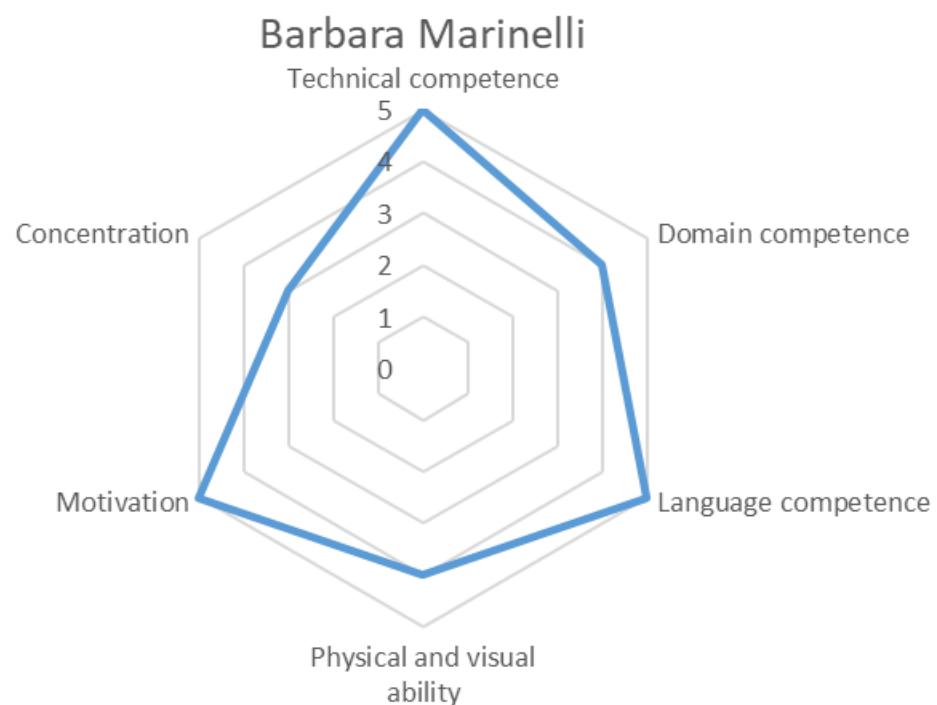
The characteristics in question are:

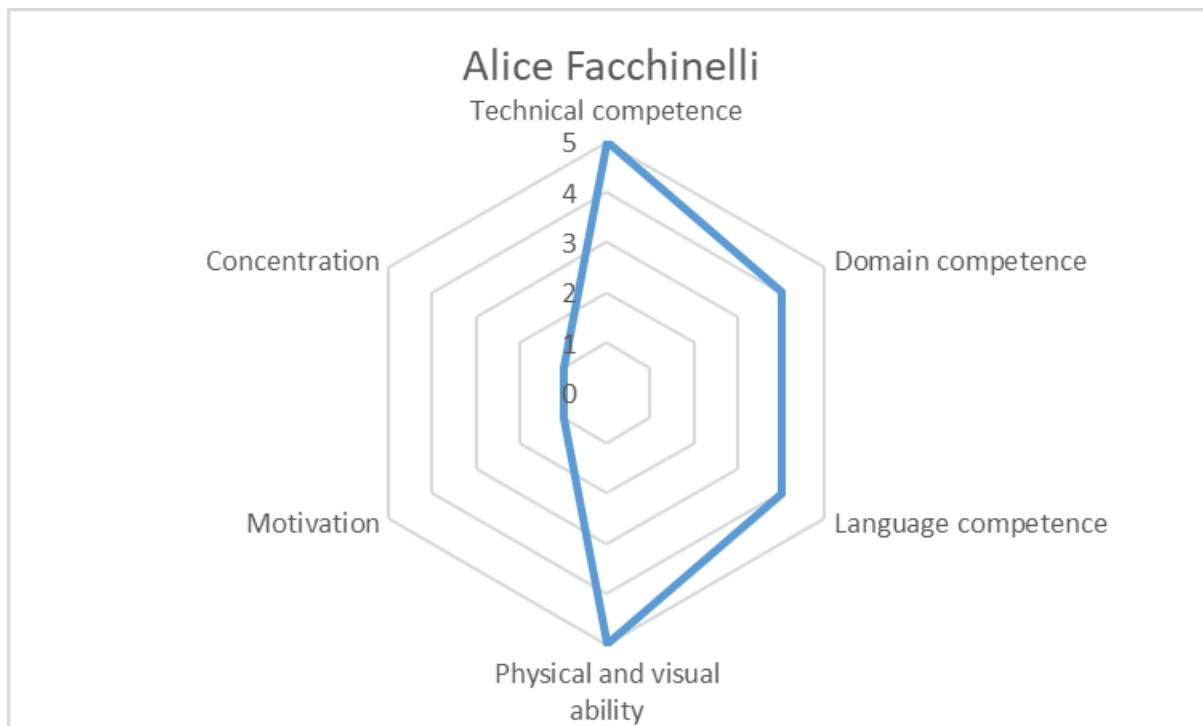
1. **Technical competence:** mastery of technical vocabulary; use of applications; use of related devices. It is multidimensional due to the complexity of today's technology and the variety of devices.
2. **Language competence:** knowledge of the language of the system (e.g., Italian); ability to understand subtleties, innuendo, irony, sarcasm, different communication registers;
3. **Physical ability:** the set of physical limitations, even partial and/or temporary, reducing the ability to use the device the system is running on;
4. **Motivation:** the set of motivations that cause the user to be interested in a task, to use a system for the task, to use this system for it;

5. **Concentration** (environmental distraction): the ability or possibility, to provide adequate focus on the task.

Below we present this analysis applied to our personas:







4.3.3 Operations

Operations are actions, available on the interface, that allow users to handle concepts: they coincide with the tasks, since the user believes he is manipulating concepts and not data structures.

Each operation deals with several actions that manipulate the data in the underlying structures, and acts on more instances of the concept, directly or indirectly, permanently or temporarily. Each command, label or widget must include the terms associated with the corresponding concepts (and not the one of the associated system).

According to CAO=S there are four types of operations:

- 1.** Creation: generates one or more instances of concepts in the initial state. In our application the following fields are associated with this operation: Profile, Newsletter Subscription, Add to package, Ask the sexologist (post question) , Post in the forum.
- 2.** View: concerns the displaying of one or more instances of the concept in an understandable way. In our application the following fields are associated with this operation: Profile, *Category*, *Item*, Blog, *Article*, Ask the sexologist (read answers), Forum, Add to cart, Add to package.
- 3.** Update: regards the modification of one or more properties of one or more instances of the entity, without creating new ones. In our application the

following fields are associated with this operation: Add to cart, Remove from cart, Add to package, Remove from package, Ask the sexologist, Profile, Post in the forum.

4. Remove: is the removal of one or more entities from the system or from the attention of the user. In our application the following fields are associated with this operation: Remove from cart, Remove from package, Profile, Forum.

4.3.4 Structure

There are three structures provided by the chaos model:

1. **Data structures:** how concept normalization generates persistent storage models of entities;
2. **Views:** models of screen to display properties of entities. Each view is composed of:
 - a. actual visualization;
 - b. commands that can be activated during viewing;
 - c. some of these commands are navigation-related;
3. **Navigation:** mechanism for activating views and commands to switch from a view to the next.

The CAO=S model is based on the creation of a table, having as vertical axis concepts, actors and operations, as horizontal axis the various concepts and inside each cell all annotations of how actor A should be able to perform the operation O on the concept C.

The diagram therefore shows representation of the specified operations on specified concepts by specified actors and, on each view are also shown design navigation with access to the various parts and, when needed, disambiguation pages and sorting. The final step concerns the designing of data structures to satisfy the view and navigation restrictions as simply and correctly as possible.

	Category	Item	Add to cart	Remove from cart
Creation	No.	No.	No.	No.
View	Visualization of the category page	Visualization of the item page	Visualization of the addition confirmation and of the cart in overlay	No.

Update	No.	No.	Update of the content of the cart plus the item.	Update of the content of the cart minus the item.
Remove	No.	No.	No.	Remove the item from the content of the cart.

	Add to package	Remove from package	Subscribe to newsletter	Profile
Creation	Creation of the package in the case of the first item	No.	Creation of an entry in the newsletter mail list with the user's mail	Creation of the profile
View	Visualization of the confirmation of addition and of the cart in overlay	No.	No.	Visualization of the profile and private sections.
Update	Update of the package content, plus the object.	Update of the package content minus the object.	No.	Update of profile information.
Remove	No.	Remove the item from the package or remove the package itself if there were only two items.	No.	Delete the profile and information connected.

	Forum	Post in the forum	Ask the sexologist	Blog	Article
Creation	No.	Create a new post in the forum.	Create a new question to the sexologist	No.	No.
View	Visualization of forum content.	No,	Visualization of precedent questions.	Visualization of the blog with all possible subsections.	Visualization of the single article.
Update	No.	Updating of forum content (through updating of one's post)	Updating the sexologist section, if allowance to publicly respond to the question is given.	No.	No.
Remove	Possibility to remove one's own posts.	No.	No.	No.	No.

4.4 Interaction design approach

With interaction design approach is defined the design of interactions between users and products, with the final goal of the creation of products enabling users to achieve their objective in the best way possible, eliminating negative feelings such as frustration and disappointment and fostering positive ones such as satisfaction and fulfillment. As part of the overall experience of using the system, Interaction design refers primarily to all physical and visual components the user interacts with.

The fundamental constraints of the user experience in using our application are represented by the amount of information they need to manage and their reciprocal linkings. Users can access the resource from whatever device they prefer, but nonetheless need to be faced with a clear and easily understandable organization of the amount of data presented in the website: for this reason we decided to present clearly the main features of the website directly from the homepage, without confining it in the header before introducing them to the user.

Also, we took into consideration the difficulties of our target users in visualizing and managing page content, and decided to create large, easily clickable elements for the layout and avoid excessively long pages, to ease user's understanding of the website structure and its contents.

Particular attention was also given to appropriate feedback to user's actions, especially in the Accessibility overlay, the modifications to the cart and the profile and the interaction with the forum and blog.

Additionally, easy information retrievability is one of the key aspects of our resource, allowing users to get all primarily important information relative to the content they are momentarily looking at at every step of their experience in the website, and therefore filtering information based on their needs.

Finally the reassurance of users regarding the safety, anonymity and trustability of the service is not only achieved by the esthetical sobriety, in comparison with the original resource, and clear straightforwardness of items and categories explanation, but also through a shift towards a less intimidating, although still playful, linguistic style and image content.

Interaction device	Computer, Tablet, Smartphone
Interaction type	Touch, touchpad or mouse + keyboard
Element appearance	Few components: modeled accordingly to the Gestalt principles, it avoids short-memory load and assumes a predictable aspect for users through page structure repetition; Task segmentation: fostering user feeling of control through step-by-step guidance and traceback of activities completion; Task completion traceback: users facilitation through saving of already inputted information and updating them

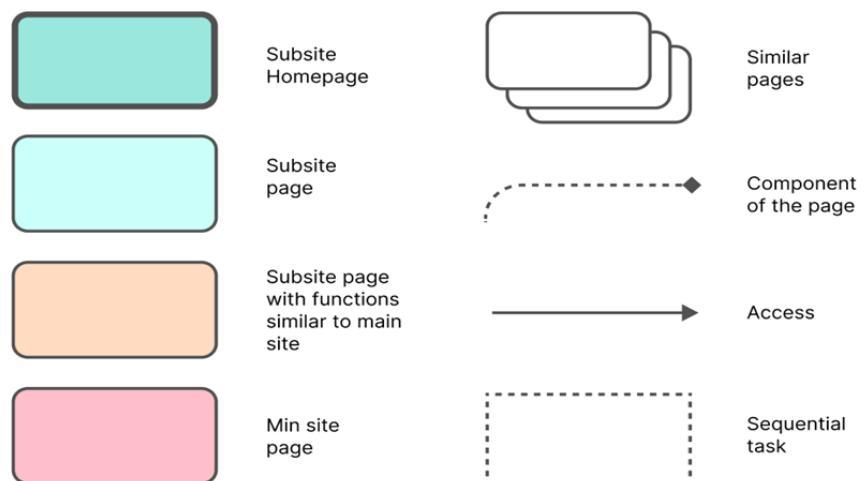
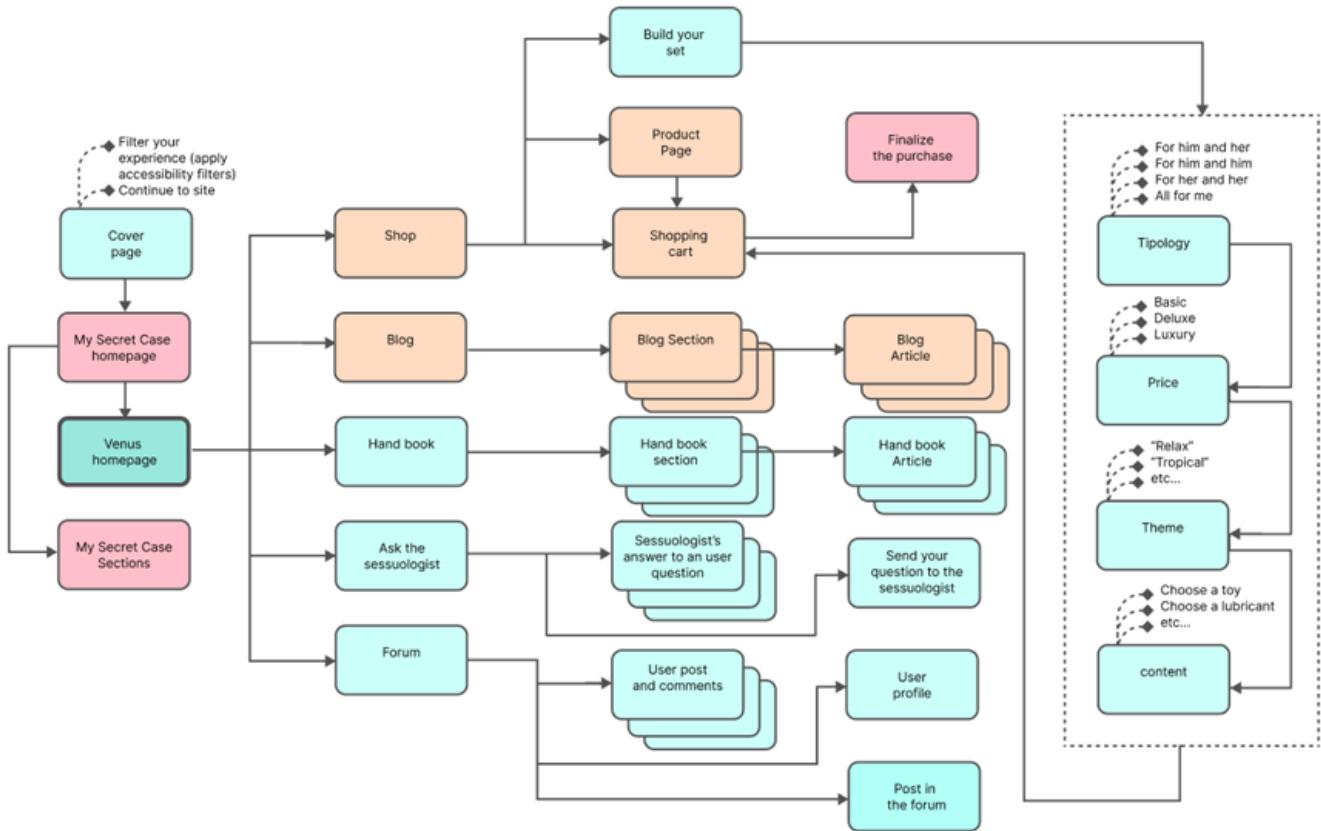
	<p>about the level of completion of tasks ;</p> <p>Input facilitation: pre-compiled formulas for input information light the user effort and reduce errors;</p> <p>Intuitive output: output understanding is facilitated through graphic solutions and simple visualizations;</p> <p>Skeuomorphism: a skeuomorphic representation of the main features (cart, profile, blog, items categories....) help the user identify them without compromising the overall layout</p>
Element format	Interactive and step-by-step guided
Feedback and manageability of the errors	<p>Information recap: at the end of tasks, the user is provided with the possibility to control again all the inserted information in order to avoid mistakes and misunderstandings;</p> <p>Choice confirmation: confirmation is a lock-in strategy which provides feedback and avoids user errors;</p> <p>Lock-in strategies: pop-ups are used to realize constraints and lock-in strategies so that users are prevented from exiting the task before the completion.</p>
Customization	The homepage changes according to user needs (accessibility filters) and provides shortcuts and suggestions to their favorite categories

4.5 Blueprints

Blueprints allow us to understand application components and their organization. We developed our representation starting from the fundamental components of our resource, and moved on to recognize relationships between them, developing step by step an accurate picture of our content structure and interrelations.

The approach applied is top-down and the elements' naming relies on natural language definitions, while relationships are represented through different kinds of arrows and links. Also, it is possible for elements to contain one another.

We developed a legend to make the blueprints intelligible.



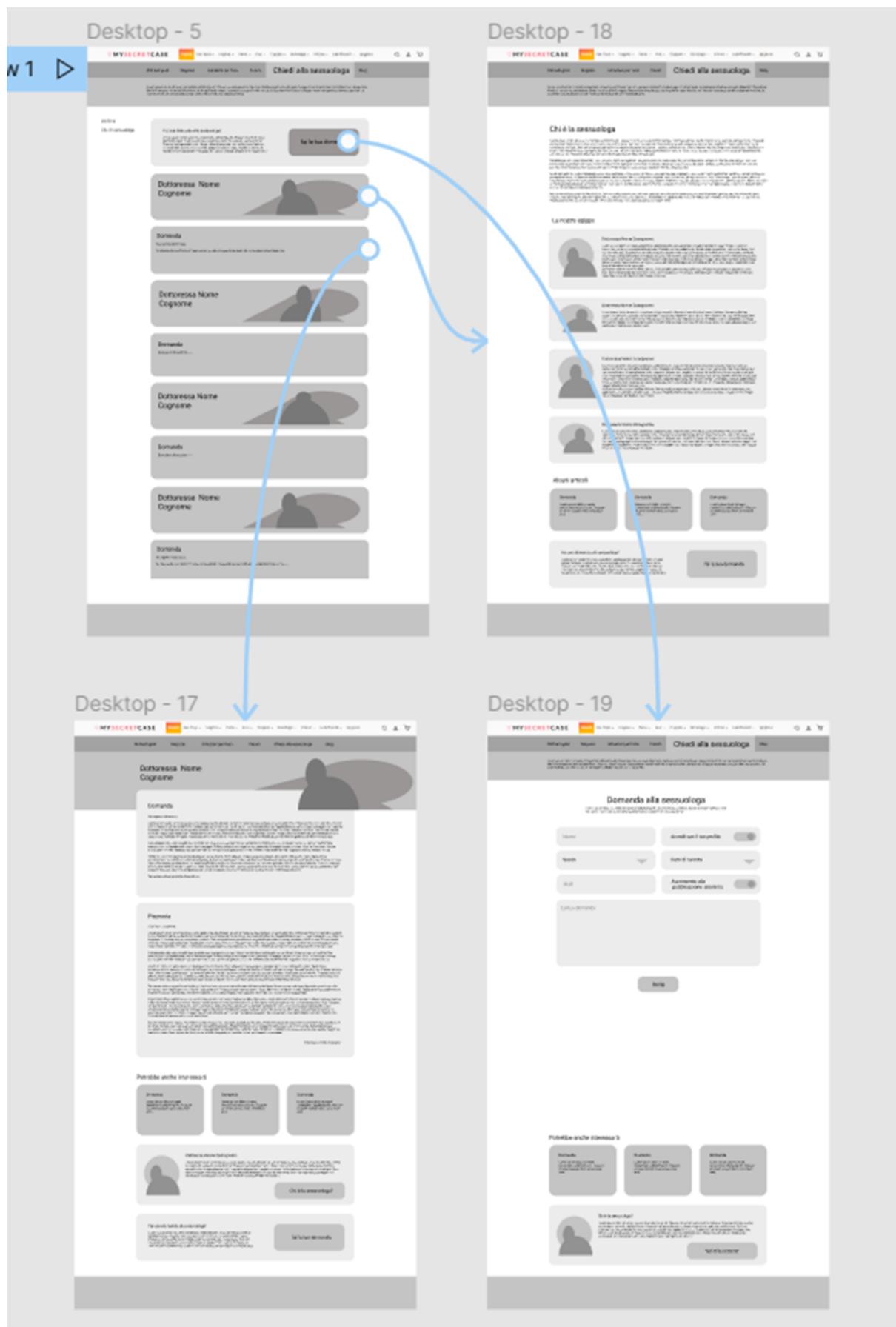
4.6 Wireframes

A wide range of wireframes of the application were created, in order to help us display the functional elements of the system: we used Figma, a web-based graphics editing and user interface design app.

Through the use of figma we also produced a small and quite limited prototype for planning the app's functionality and for testing the usability of relational patterns between elements.

All wireframes developed by the team are documented and explained in a file named FinalDesign.pdf, which you can find attached to this report.





5. Evaluation of design

5.1 Inspection

5.1.1 Cognitive walkthrough

We will now proceed with a cognitive walkthrough, in order to determine both the usability and plausibility of the developed interface with respect to the identified user segment: this operation will try and identify thoughts and actions of users when they first perform a task using the interface.

For this purpose we developed a prototype of the website, including blog and forum implemented through Figma, in order to allow us to create an interactive wireframe: we also imagined a persona, to carry out a well defined task, whose ideal sequence of steps is already known to us.

This task-specific approach to usability: holistic usability inspection will thus be applied in the following sections to enrich our final analysis.

Task 1

Buy a package

User

Lucrezia is a 61 years old woman. She is happily single after a not-so-recent anymore bad divorce and a really bad marriage. She has two children of which the younger still lives with her and is now completing his last year of high school, while the older is already married. Lucrezia owns a small hair salon, in which she once worked as a hairdresser, and is now her only income. She doesn't like to go out a lot and neither to get to know men of her age, but she follows a sculpting course in her free time. There while she was talking with her friend Metella about the perks of meeting new people at their age and her feeling of getting older as everyday goes by, Metella suggests her a website she recently noticed, "MySecretCase - Venus", that sells sex toys built for women that have passed their mid-age, encouraging her to "buy herself a little treat".

Back home, with nothing better to do since her daughter is still out with friends, Lucrezia starts navigating the website.

Happy path

1. Lucrezia accesses “MySecretCase - Venus” from her computer and she decides to set the accessibility filters to “Mid-age friendly profile”
2. She accesses the website and notices she doesn’t need the enlarged character and buttons so, before proceeding, she removes the filter
3. She clicks on “Shop” from the homepage
4. She knows she does not have any toys nor lubricants at home so she decides to buy herself a package
5. In the following page she clicks on “Create your package”
6. She reads the instructions to create the package and then clicks on “Procede”
7. She plans to use the toy on herself so she selects “All for me” in the next page and clicks on “Go on!”
8. Since this is her first time buying this kind of products she sets for the “Deluxe package”, which contains an electric toy, two different kinds of lubricants and a toy cleaner
9. She selects the “Deluxe package” and clicks on “Go on”
10. She wants to use the products mainly to relax and enjoy herself, so she selects the “Relax” theme which focuses on little invasive and easy to use toys
11. She selects “Relax” and then clicks on “Go On!”
12. She selects from the suggested “Sextoys” list the “Ballo, non mi innamoro!”, a remote controlled vibrating bullet
13. She selects from the suggested “Lubricants” list the “Acqua azzurra, acqua chiara”, a water-based lubricant and she notices the count on the top of the list going from 2 to 1
14. She understands she has to select another lubricant and scrolls to the left the section
15. She chooses the “Un’ora d’amore”, a long-lasting lubricant, aloe-based
16. She selects from the “Toy cleaners” list the “Maledetta primavera”, a cleaner scented with fresh flowers perfume
17. She clicks on “Go to cart”
18. She controls the shopping summary and checks that everything is okay
19. She clicks on “Proceed”
20. She sees again her items, is reassured that the package is completely anonymous and clicks on “Go to payment”
21. She does not have a profile nor wants to create one, so she just enters her personal data and proceeds to complete the payment
22. She is redirected to her bank website and has to enter her CVC and confirm the transactions

23. She is redirected to “MySecretCase - Venus” and the page tells her she will receive a mail with her order specifications
24. She clicks on “Go back to homepage” and closes the page

Task 2

Ask a question to the sexologist

User

Ludmilla is a 57 years old married woman. She works as a dentist in Parma in a multi-purpose clinic. She met her husband, a restaurant owner, in her late 30's and they have been together ever since. They decided to marry only recently, in order to have an assurance, if anything should happen to one of them, that the other is recognized as their closest relative. She has always lived in a flat she rented in the city center, but after the wedding they agreed on moving in together in his house. They are really close on both a cultural and emotional level, and their intercourses have always been regular and very pleasurable. Since she experienced menopause she felt her desire decrease and her body reactions to sexuality change, and this really makes her feel uncomfortable about herself and her relationship. She recently noticed a growing amount of posts on her Facebook belonging to “MySecretCase - Venus”, suggesting articles about sexual changes after menopause and decides that next time she will take the opportunity and read it.

Days after she is scrolling to her feed and notices a “MySecretCase - Venus” link to an article about how to relax and enjoy sexual intercourses for women with vaginal dryness and other issues related to menopause and decides to click on it and read the article.

Happy path

1. Ludmilla clicks on the link in her Facebook feed
2. She finds herself in a page containing the article she saw on the Facebook preview
3. She reads the article, scrolling the page as she goes
4. At the end she finds a “You might also be interested in” section
5. She clicks on the second suggested article, dedicated to “Wine, not vinegar: how sexuality can age without getting old”
6. She reads the article and would like to know people comments about the issues in it
7. She notices the “Forum” button on the header

8. She clicks it
9. She finds herself on the “Forum”
10. She clicks on “Search by tag”
11. She digits “aging, menopause”
12. She finds the first 10 posts containing the tags
13. She notices in a comment to the third one the possibility to ask a sexologists’s team about specific issues
14. She clicks on “Ask the sexologist” on the header
15. She clicks on “Pose your question”
16. She compiles the fields with her personal information
17. She writes down her question about ways to relax and regain her sexual desire towards her husband after menopause
18. She checks the box to “Give consent for the anonymous publication of my question and answer”
19. She clicks on “Send”
20. She clicks on “Go back to questions”
21. She closes the website

5.1.2 Action analysis

We can now proceed towards the quantitative analysis of specific sequences of actions that need to be performed in order to complete a task. This evaluation process is defined as Action Analysis and consists in a close examination of actions' sequences with respect to each of the tasks: it can either take a formal or an informal approach. This project opted for the latter option, which consists in the listing of natural series of actions to be performed, globally evaluated, and avoids taking into consideration over-detailed actions and specific timings.

The purpose of this process is the verification of the amount of actions required by each task and the assurance that easier tasks present easier and quicker actions in comparison with more complex ones: if that should not be the case we will have to face a usability problem.

Each of the tasks will be expressed as a general performance outcome, expressing the ratio between difficulty, number of actions and minimal usage time (minimal amount of time required for task completion)

Task	Actions	Minimal use timing	Outcome
Filter website	<ol style="list-style-type: none"> 1. Click on “Select filter” 2. Click on the filter 	00:02.54	Very simple task, actionable on the landing and home pages
Create profile/Log in	<ol style="list-style-type: none"> 1. Click on the profile icon 2. If not registered yet click on “Registrati” 3. Insert Name 4. Insert Surname 5. Insert Mail 6. Insert password 7. Click on register 8. Insert Mail and Password 9. Click on “Accedi” 	00:23.56	Simple task requiring to visit different pages
Buy single item	<ol style="list-style-type: none"> 1. Click on “Negozio” 2. Click on the category of interest between “Vagina”, “Pene”, “Coppia” and “Ano” 3. Click on the chosen item 4. Click on “Add to cart” 5. Click on “Procedi” on the cart 	00:31.05	Simple and direct task

	<p>overlay</p> <ol style="list-style-type: none"> 6. Click on “Vai al pagamento” 7. Insert your data or log in 8. Complete payment and expedition pages and click on “Torna alla home” 		
Buy package	<ol style="list-style-type: none"> 1. Click on “Negozio” 2. Click on “Componi il tuo pacchetto” 3. Click on “Procedi” after reading the instruction 4. Click on the selected category between “Tutto per me”, “Per lei e per lei”, “Per lui e per lui” and “Per lei e per lui” 5. Click on “Procedi” 6. Click on the selected category between “Basic”, 	00:54.26	Simple task, requires step by step performance of independent and consecutive sub-tasks

	<p>“Deluxe” and “Luxury”</p> <p>7. Click on “Procedi”</p> <p>8. Click on the selected theme between “Relax”, “Tropical” and “Hardcore”</p> <p>9. Click on “Procedi”</p> <p>10. Select the number of items corresponding to your previous choices in the corresponding windows</p> <p>11. Click on “Vai al carrello”</p> <p>12. Click on “Procedi” on the cart overlay</p> <p>13. Click on “Vai al pagamento”</p> <p>14. Insert your data or log in</p> <p>15. Complete payment and expedition pages and click on “Torna alla home”</p>		
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Post in the forum	<ol style="list-style-type: none"> 1. Click on “Forum” 2. Click on “Posta nel forum” 3. Insert Name, Sex and Birthday 4. Check for anonymity (if desired) 5. Write post 6. Write tags 7. Click on “Invia” 	00:28.20	Simple task thanks to tags mechanism ease
Look for an issue in the forum	<ol style="list-style-type: none"> 1. “Click on “Forum” 2. Click on “Cerca nel forum” 3. Write one or more keywords related to the issue you are looking for in the search bar 4. Click “Cerca” 	00:12.52	Fast and useful task, highlighted tags could make it even quicker
Look for a topic in the blog	<ol style="list-style-type: none"> 1. Click on “Blog” 2. Click on the section closer to your topic 3. Alternatively click on “Cerca nel blog” 4. Write one or 	00:12.58	Fast and useful task, maybe eased by highlighted topics

	<p>more keywords relevant for your research</p> <p>5. Click on “Cerca”</p>		
Ask a question to the sexologist	<p>1. Click on “Chiedi alla sessuologa”</p> <p>2. Click on “Fai la tua domanda”</p> <p>3. Either click on “Accedi con il tuo profilo” and insert your mail and password or insert your Name, Sex, Birthday and Mail</p> <p>4. Check for anonymous publication of question and answer (if desired)</p> <p>5. Write down your question</p> <p>6. Click “Invia”</p>	00:32.12	Task resembling Q&A mechanism with a personal perspective

5.1.3 Heuristic analysis

In order to complete our inspection we need to perform an heuristic analysis: instead of using the same set of guidelines employed in the evaluation of our interface usability, we chose to adopt a different one in order to easily detect problems that could have

gone unnoticed during the previous website version inspection, avoiding re-iteration of the same set of violations which should have already been solved.

We subsequently chose to employ 1996's Jakob Nielsen's heuristics, which are widely recognized as the set of guidelines mostly used in the field.

The 10 heuristics of Jakob Nielsen (1996)

1. Visibility of system status: The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
2. Match between system and the real world: The system should speak the user's language, with words, phrases and concepts familiar to the user, rather than system-oriented terms; it needs to follow real-world conventions, making information appear in a natural and logical order.
3. User control and freedom: Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue: the system should support undo and redo.
4. Consistency and standards: Users should not have to wonder whether different words, situations, or actions mean the same thing: the system should follow platform conventions.
5. Error prevention: Even better than good error messages is a careful design which prevents a problem from occurring in the first place: the system should either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.
6. Recognition rather than recall: Minimize the user's memory load by making objects, actions, and options visible; the user should not have to remember information from one part of the dialogue to another; instructions for use of the system should be visible or easily retrievable whenever appropriate.
7. Flexibility and efficiency of use: Accelerators—unseen by the novice user—may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users: the system should allow users to tailor frequent actions.
8. Aesthetic and minimalist design: Dialogues should not contain information which is irrelevant or rarely needed: every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
9. Help users recognize, diagnose, and recover from errors: Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

10. Help and documentation: Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation: any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

It is necessary for us, before further proceeding with this analysis, to clarify that the developed wireframe does not implement all the possible paths users might want to take nor all the subsections users might need, for it being just a prototype and not the final resource itself.

The tasks implemented have been selected in order to represent the final goals of our general user, namely buying a product and/or acquiring information regarding the sexual sphere.

For this reason we decided to focus on the main features implemented by the wireframes, removing ancillary tasks in order to functionally proceed with our final heuristic analysis: nonetheless the behavior of these tasks would conform to the usability choices adopted for the design of the resource main functionalities.

GUIDELINE	VIOLATION
Visibility of system status	/
Match between system and the real world	/
User control and freedom	In order for users to interrupt the acquiring of a package they need either to click on another page from the header or complete it and then remove it from the cart Same applies to packages' modifications
Consistency and standards	/
Error prevention	Packages composition is explained step by step but is not required a confirmation, apart from the "Go on" button, after each step
Recognition rather than recall	/
Flexibility and efficiency of use	Apart from memorization of preferences for profiled users the system does not allow for relevant time saving patterns

Aesthetic and minimalist design	/
Help users recognize, diagnose, and recover from errors	/
Help and documentation	Documentation is provided for items use but not for the resource itself, though assistance is provided

Thanks to the inspection we identified some minor issues, represented by violations to the guidelines 7 and 10, and two major ones represented by guideline 3 and 5: we considered the first two as superficial and not to be considered before further developments of the application, while the third and fifth have been solved in order to have a way for the user to get back to previous stages of package composition, modify them or even undo the whole process, and even at the final step of the process one could select and remove items from the cart and choose to re-do the package from scratches or change only the involved item.

5.2 User testing

We needed to complete our design evaluation through the involvement of users, their reactions and opinions; this was achieved by involving real users and conducting tests on the website design.

5.2.1 Test protocol

Test type	Discount usability testing
	<p>It is an informal and intuitive test that allows to reach good results in a cheaper way than the deluxe one, due to the reason it involves only 3-4-users with no specialist in user testing. Also, it has the great advantage of being sequential, and thus allows to evaluate and solve inputs</p>

	<p>from each test before starting with a new one.</p> <p>As the test is sequential, it allows to accelerate the identification of errors cycle: the first participant finds a considerable percentage of catastrophic errors (even 80%). They are evaluated and resolved then the second participants find some remaining errors (few catastrophic and many serious). They are evaluated and resolved. Then the third participants find some remaining errors (none catastrophic and some serious errors and some cosmetics). Etc. Normally, after 5 iterations 100% of catastrophic errors, 80% of serious ones, and 50% of cosmetic ones were found.</p>
Test methodology	Thinking aloud
Test purpose	Formative test to discover which problems in order to solve them as soon as possible
Test phase	Test run after completing prototype development to asses design choices correctness
List of tasks to be tested	<ol style="list-style-type: none"> 1. Personalize website visualization through the correct filters 2. Compose a package to purchase 3. Find an issue in the forum
Number of tests	3 + 1 (pilot)
Number of users	3 + 1 (pilot)
Choice of users	Users have been chosen to be as suitable as possible with our target profiles. All their profiles are anonymously described in the section 'Tests'.
Error classification	<ul style="list-style-type: none"> • Catastrophic (the user does not complete the task)

	<ul style="list-style-type: none"> • Serious (the user finishes the task with significant slowdowns and / or with considerable compromise on quality output) • Cosmetic (the user identifies light slowdowns or annoyances in the performance of one or more task)
Final assessment questionnaire	System Usability scale (SUS)

5.2.2 Test outcomes

Quantitative

- Time/Task: The amount of time it takes the participant to complete the task.
- Success of the task completion: Each user is provided with a scenario that requires the participant to obtain specific data that would be used in a typical task.

The scenario is successfully completed when the participant indicates they have found the answer or completed the task goal.

Errors:

- Critical Errors: Critical errors are deviations at completion from the targets of the scenario. Essentially the participant will not be able to finish the task. Participants may or may not be aware that the task goal is incorrect or incomplete.
- Non-Critical Errors: Non-critical errors are errors that are recovered by the participant and do not result in the participant's ability to successfully complete the task. These errors result in the task being completed less efficiently.

Qualitative

- Satisfaction
- Opinions
- Suggestions

5.2.3 Tests

As specified in the testing protocol definition, we developed our testings on four target users, based on the aforementioned three tasks, employing a thinking aloud methodology.

Tests were sequentially developed and a team gathering for discussion of emerging issues was carried out after each one, in order to solve issues before proceeding with the following test, in accordance with the chosen testing protocol and in order to assure that in the following ones the users would interact with an already enhanced version of the prototype and find different and new issues to solve.

At the end of this section we reported for each user the related SUS scores for each task and a general one on the application. Every test is described in detail below.

The three subjects we have asked to test our prototype are here describe anonymously:

User 1	A 56 years old woman, living in Abruzzo. She is currently employed by "Poste Italiane" as a front desk worker. She is happily married with a 62 years old man and has two children that are actually living abroad.
User 2	A 64 years old woman, living in Calabria. She worked as a vet all her life and now she is legally retired but still likes to help with issues regarding the natural park in her living area. She is divorced and childless.
User 3	A 50 years old woman, living in Liguria. She is a housewife, has been married for 23 years and has 3 kids, of which the last one is just 8 years old while the other two live together in Rome and are studying there. She worked as a bartender in her youth but left work with the first pregnancy.

Disclaimer: As previously outlined user testing was needed to deal with the fact that the prototype has been implemented with regard to only certain options and actions. Thus, users are not completely free of moving within the application, but their actions are restricted to the implemented options.

For this reason, the tests are focused on their capability of understanding and describing, through the methodology of the thinking aloud, the expected roles and

consequences of the displayed elements, the reasonings behind their choices and their personal opinions and suggestions about the design itself.

Pilot test – Tester 0

Before starting with the actual user tests, a pilot test has been conducted in order to evaluate the testing protocol and the chosen testing method. The pilot test was elaborated by two members of the team and performed by the other one. The test was useful to make sure that questions were consistent, the team was prepared and the duration of the test was reasonable.

Quantitative results

Tasks	Success of task completion	Time on task	Catastrophic errors	Serious errors	Cosmetic errors
Personalize website	X	10.16	No	X	CO1
Compose package	X	52.35	No	SE1	X
Find forum issue	X	28.12	No	SE2	CO2

Each spotted error has been provided with an ID (the acronym CE for catastrophic errors, SE for serious errors and CO for cosmetic errors, numbered with respect to the order of appearance) and is described and resolved in the following table.

Error ID	Error description	Solution
CO1	Filter impossible to select before entering the website	Adding filter in the preview page
SE1	Impossibility to mix and match item unconditionally, depending on packages thematic composition: package was composed starting from “Tropical” and “Deluxe”	Adding a “Compose your package button”

	and then items were removed from the cart and substituted	
SE2	Tags were searched using the “Search” icon in the header	Enlarge the search button in the prototype
CO2	Similar tags in the “Most used tags”	Cleaning of repetitions in the prototype tags

Qualitative results

The opinion related to the website was generally positive: the only complaints related to links and connections in the prototype, that sometimes felt unclear, but will be definitely improved in the realized resource.

User 1

User 1 has tested the prototype on her computer, a Dell laptop.

Task 1

The user selected the “Filter your experience” dropdown directly from the beginning of the page. She remarked on the fact that she often forgets to put on her glasses when she is not working and that characters “a little bit bigger” would definitely avoid her zooming in and out. She was afraid she did not select the right filter once the page autonomously moved on and opened again the filter in the home to double check.

Task 2

The user accessed the shop and instantly identified the right way to compose a package. She selected a package for “She and he”, Deluxe and personalized her package without choosing a theme. She had no problem selecting the items proposed: she remarked on the amount of possibilities offered and giggled while selecting a couple’s toy.

Task 3

The user directly found the forum and identified the tag below one of the posts in the main page. She clicked on the tag and was directly taken to the related posts. She then proceeded to read one of the posts that she found of particular relevance.

Quantitative results

Tasks	Success of task completion	Time on task	Catastrophic errors	Serious errors	Cosmetic errors
Task 1	X	12.3	No	SE3	X
Task 2	X	1:25.31	No	X	X
Task 3	X	31.12	No	X	X

Error ID	Error description	Solution
SE3	Absence of filter selection confirmation in opening page	Showing the selected filter on the dropdown, allowing users to click on “Go to website” after checking their selection

Qualitative results

The first user showed a sincere gratitude regarding the visibility and understandability of the accessibility filters, and also signaled the need for double confirmation regarding their correct selection. The team was worried about the amount of time she employed in package selection but during the whole process she kept mumbling aloud sentences from package description, signaling that the duration of the task was mostly due to a desire of understanding the other possible packages presented and their characteristics.

User 2

User 3 has tested the prototype on her tablet, a Samsung Tab A7.

Task 1

The user selected the “Filter your experience” dropdown directly from the beginning of the page and clicked on a filter for ADHD. She then proceeded to access the website.

Task 2

The user accessed the shop from the “Go to the shop” button on the end of the page, after scrolling the whole content. She identified the “Create a package” button and chose a package for herself only. She selected a “Basic”, “Tropical” package and selected her items of choice. She remarked that at the beginning she did not want a massage oil and would have preferred a toy cleaner but then she found some in the devoted section and noticed the usefulness of information regarding items composition presented without the need to access their pages.

Task 3

The user directly found the forum and decided to search for the tag from the search bar. She clicked on the tag in the below section “Most common tags” and opened a post she regarded as of interest. She was afraid she would not be able to get back to the previous section and only after some time noticed the tags she used to access the post of interest was present under the post itself, allowing her to get back.

Quantitative results

Tasks	Success of task completion	Time on task	Catastrophic errors	Serious errors	Cosmetic errors
Task 1	X	8.16	No	X	X
Task 2	X	2:01.02	No	X	CO3
Task 3	X	22.24	No	SE4	X

Error ID	Error description	Solution
CO3	Basic Package option containing only “Massage oil” but then presenting also toy cleaners in the section	Modifying the indication from “1 hot massage oil” to “1 massage oil OR toy cleaner” in Basic packages
SE4	After entering a post in the forum from tag research it is difficult to understand how to get back to results	Highlight tag that led to the post itself

Qualitative results

User 2 found the website very intuitive and easy to use. She was surprised by the amount and quality of information and remarked on the ease of finding what she was looking for. She admitted that she would like to have a more clear overview of possible contents for packages in a previous moment and not during their selection.

User 3

User 3 has tested the prototype on her computer, an Asus terminal at her desk.

Task 1

The user selected the “Filter your experience” dropdown directly from the beginning of the page and decided she did not need any filter (she giggled and said that if she had not put her glasses on she would have definitely used the filter for “Visual impairment”). She then proceeded to access the website.

Task 2

The user accessed the shop from the top button. She identified the “Create a package” button and chose a package for “She and he”. She selected a “Deluxe”, “Relax” package and selected her items of choice.

Task 3

The user directly found the forum and decided to search for the tag from the search bar. She clicked on search and on the tag itself. She chose a post of interest, gave it a quick reading and went back to the research to choose another one.

Quantitative results

Tasks	Success of task completion	Time on task	Catastrophic errors	Serious errors	Cosmetic errors
Task 1	X	11.43	No	X	X
Task 2	X	2:35.08	No	X	X
Task 3	X	25.04	No	X	X

Error ID	Error description	Solution
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X	X	X
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Qualitative results

User 3 found the website useful and intuitive. She remarked that it looked as highly trustable and friendly for people her age and maybe older ones.

5.2.4 Post testing phase

SUS score

Similarly to what happened in the User research phase, users were required to complete a SUS evaluation test.

The final SUS score, as computed on the results tested on the website prototype is 85: a highly satisfactory result that proves the usability of our design.

6. Final recommendations

The document all the steps carried out by the design team in order to design an accessory page for MySecretCase website, which enlarged the already offered services and products to a user segment that was still left unconsidered by the website as it is, namely women above 50years old that already experienced menopause.

The goal of this project was to provide guidance and explanations for the decisions taken in order to adapt the contents and structure of MySecretCase to the tasks and goals of the selected users and explains how the designed section, named Venus, will not only contain a selection of items and guidance tools, but develop specific forms of interaction devoted to usit users needs, making the resource experienceable in a suitable language and style.

The main audience of the website could be reached by the new section, without been impacted nor harmed by it, being Venus a separate website clearly devoted to specific targeted users: nonetheless younger women or men who, for any reason, should need a product or content present on the selection of the website will be able to access its items and information resources.

We are also convinced that both Venus and MySecretCase main website could be further expanded with other tools, which would give them an even stronger advantage on the digital services offered by similar resources: the first and most important one could be the development of two different apps to implement smartphone and tablet features.

Many other tools could be implemented, expanding, and reaching the full potential of communication between the two resources: an omni comprehensive blog and forum, divided in internal sections for usability; a possibility to suggest items and services to other users in the forum; the implementation of packages in both resources. These are just some of the countless possibilities that would exponentially improve the quality of the service offered. All these options could be also easily integrated.

Finally, from a usability perspective, it would be interesting to see how the original website tasks and Venus features would come together, potentially allowing the final achievement of creating two heterogeneous areas of action, the general website and the middle-aged section, that would fully complement each other and satisfy a high number of users.