



First evaluation on user experience of an informative **app** for data visualization related to **violence against women**

Primera evaluación de la experiencia de uso de una aplicación digital que visualiza información sobre la violencia contra las mujeres

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Abstract

This article aims to describe the visual information design process of a digital application developed to increase visibility in regards to how three newspapers from the state of Puebla, Mexico, report on news related to violence against women. The methodology combined qualitative data analysis, information management and architecture, as well as interface design, all framed within the disciplinary perspective of information design. The article details aspects of the graphic design's visual representation, including the visual identity, navigation structure, and wireframes, an initial evaluation of usability, navigation, and the effectiveness of the visual design conducted with potential users. The results highlight the importance of a clear and accessible visual presentation to enhance understanding and awareness of the issue of violence against women.

Keywords: Information design, design process, user experience, informatic application, violence against women.

Resumen

El presente artículo tiene como objetivo describir el proceso de diseño de información visual de una aplicación digital destinada a visibilizar cómo tres periódicos del estado de Puebla, México, abordan notas informativas sobre la violencia contra las mujeres. Se llevó a cabo una metodología que combina análisis cualitativo de datos, gestión y arquitectura de la información con el diseño de interfaz de la aplicación, todo bajo la perspectiva disciplinaria del diseño de la información. En este artículo se detallan los aspectos de la representación visual del diseño gráfico de la aplicación, incluyendo la identidad visual, la estructura de navegación y los wireframes, una evaluación inicial de usabilidad, navegación y efectividad del diseño visual por parte de usuarios potenciales. Los resultados destacan la importancia de una presentación visual clara y accesible para mejorar la comprensión y sensibilización sobre la problemática de la violencia contra las mujeres.

Palabras clave: Diseño de información, proceso de diseño, estudio de los usuarios de información, aplicación informática, violencia contra la mujer

Introduction

Violence against women is an act capable of adopting several forms, and remains as whether an ignored, censored, or misunderstood issue, mainly due to misinformation and a lack of visibility from communication media. Such media plays a vital role in the development of social gender relationships, and can influence, be it positively or negatively, the way in which violence against women is addressed. It is imperative to remember the essential role of mass media in the social modification of these relationships (Vega Montiel, 2010).

Among the diverse methods of symbolic violence against women, it is safe to say that acting as if this issue were invisible is one of them. This is to say, refusing to acknowledge a specific social group leads to consequences that increase said group's vulnerability.

The normalization of violence also contributes to the aforementioned lack of recognition, affecting victims, perpetrators, and public opinion. This is a phenomenon that yields significant effects in the occurrence, be it conscious or unconscious, of violent acts (Del Prete and Redón Pantoja, 2022; Van Der Wilk *et al.*, 2018). The lack of recognition faced by women during the course of their daily routine leads to their becoming invisible in the eyes of society, thus rejecting their existence.

The United Nations Educational, Scientific, and Cultural Organization (Unesco) remarks on the key influence of social media in the formation of individuals' ideas and actions, which reflect and mold social structures and systems. While also contributing to the upbringing and permanence of norms and stereotypes related to gender, affecting power distribution in modern societies, as well as perceptions about gender roles (Unesco, 2022).

Additionally, there is factual proof regarding academic research supporting this perspective. Fabrizio Santoniccolo *et al.* (2023) assert that media representations play a crucial role in sociocultural pressure production, influencing beliefs, attitudes, and gender expectations. These representations, often stereotypical, are capable of reinforcing gender roles and fostering sexist attitudes, including tolerance towards violence.

News articles should be understood as a process of socialization of information, in which the narrative presented constructs in the reader's mind a conceptual representation of the topic in question. In this sense, information becomes a formative element of conceptions and ideas that give rise to perceptions and mental models influencing our social behaviors (Calvo Hernando, 2003).

Mass media acts as a fundamental source of information, which also often turns it into a knowledge catalyst, in some cases even adopting educational roles. It is imperative to remember the central role of communication in the setting of gender relations.

It is also worth considering the different social and cultural values assigned to certain media, in other words, the value people assign to newspapers as cultural objects, to journalism as a discipline, and its contents as the result of professional enactment. In plethora of cases, people take for granted any information found in an article, making them accept certain facts not by personal reflection, but by the authorized workers who deliver such information.

Several studies highlight the role of the media in the diffusion of stereotypes against women, which, at the same time, contribute to the perpetuation of symbolic violence (Fernández-Castrillo and Lara López-Arza, 2022; Mata-Santel, 2023; Medina-Ávila and Mecalco-López, 2021). However, the advent of new technologies and digital media has increased visibility for topics concerning gender violence. Technological advancements have also laid the groundwork for the development of mobile applications that provide scientific information and bibliographic data in real time, becoming accessible and attractive tools to divulge and deal with research among less specialized audiences (Bohórquez y Chaviano, 2021).

In the current digital era, mobile applications have become powerful tools for addressing and making visible violence against women. These platforms offer a unique opportunity to disseminate information about cases of violence, available resources, and reporting mechanisms in an accessible and timely manner. Moreover, applications can provide a safe space for victims to share their experiences anonymously, connecting them with support and empowerment networks. By offering an interactive and confidential medium, digital applications can overcome geographical and cultural barriers, reaching communities that might otherwise be excluded from the dialogue on gender-based violence.

In the current digital age, mobile apps have turned into powerful tools to address and provide a space for violence against women. Virtual platforms offer an invaluable opportunity to share information about violence cases, provide support resources, as well as accessible and fast ways to report these acts. Besides, mobile apps can provide a safe space for victims to share their experiences anonymously, while connecting

them to supporting and empowering circles. Bringing interactive and confidential media, such as digital applications, can certainly surpass any geographic or cultural barrier, reaching communities that would otherwise be ostracized from dialogue regarding gender violence.

The aforementioned brings to light the need for conceptual tools that foster critical thinking in order to evaluate the information people perceive (Tinmaz *et al.*, 2023; Zorrilla Abascal and Castillo Díaz, 2023). An undeniably important factor is informative literacy, which allows constant creation of internal processes to evaluate any piece of data surrounding individuals and lets them interact with it (Barizon Filho and Cremonez Rosa, 2021).

Without these tools of information literacy, the information and data we consume may be reappropriated without proper interpretation, or the information itself may be misguided or misleading, and we may accept it as true. Under these circumstances, Information Design (ID) emerges as a discipline that helps strengthen our information literacy skills by presenting information that is accessible and, above all, by revealing and clarifying its contents (González de Cossío, 2016; Pontis and Babwahsingh, 2023), increasing visibility for the stories that data tell us and enhancing our understanding of what we read.

Having visual representation tools that allow for the comprehension of publications by journalism media is of vital importance (Puebla-Martínez *et al.*, 2022), since it conveys the execution of better journalism practices, as well as an informed population will boost the development of critical thinking citizens, thus revealing aspects of violence that are currently normalized, hence being ignored during our daily access to information.

To achieve this, it is necessary to have a medium that enables direct interaction with people. Therefore, this project opted for sharing the collected data through a digital information system in other words, an app, making the project equally accessible to the general and specialized public.

This article focuses on describing the design process of a digital application aimed at making visible how three local newspapers in Puebla, Mexico, address violence against women in their news articles. First, it presents the theoretical frameworks on violence against women and digital applications, as well as the information design principles that underpin this proposal. Second, it outlines the methodological design focused on two aspects: (a) the visual design, which includes the conceptual design and visual identity, and (b) the navigation structure and wireframes. In addition, usability, navigation, and visual design effectiveness tests were conducted with potential users to inform design decisions. The results are organized according to these three dimensions, and the conclusions highlight a positive assessment of the application,

while identifying areas for improvement such as the differentiation of visual elements, the clarity of some categories, and the design of buttons to optimize the user experience.

Literature review *Violence against women and digital applications.*

Violence against women is a worldwide phenomenon that afflicts all societies. In Latin America, despite efforts and public laws to alleviate and eradicate this issue, studies demonstrate its constant increase.

In Mexico, according to the National Institute of Statistics and Geography (Inegi, 2022), a significant percentage of women above 15 years old (roughly 70.1%) have been victims of violence of any sort. The most common type among them is psychological, constituting 51.6%, closely followed by sexual violence, featuring 45.6%.

On the other hand, the first decade of this century witnessed technological advancements that dominated any other type of social interaction. Vergel Tovar *et al.* (2021) claim that the government, as well as social movements and activism, have found a repertoire of interesting tools to stand against violence in cyberspace.

Violence against women is a severe and persistent issue around the world, and digital applications might play a significant role in the fight against it. In recent years, there has been an increase in the number of mobile apps developed to help women raise their voice regarding violence and have access to assistance in case of emergencies. Thus, numerous studies have documented this trend (Moreno López and Arroyo López, 2022; Peinado Miguel and Mateos Abarca, 2016; Pérez-Pimienta *et al.*, 2022; Villanueva Mora and De Jesús Islao, 2024). These apps might provide valuable information about available resources and community support services.

Nonetheless, there is also a current concern regarding the representation of violence against women in virtual environments. The way in which information related to violence is presented can significantly influence public opinion and the disposition of society to address it. It is also worth considering that representations of violence might empower women, or otherwise immortalize stereotypes and gender prejudice (Cortázar Rodríguez, 2021).

In a previous study about mobile apps aiming to women's safety in Mexico City, Salinas Sánchez (2020) concludes that there is a potential, significant market in Mexico for the development of apps tailored to address violence against women. Easy-to-use features are vital to secure more women downloading and actively using these apps to obtain support and aid in violent situations.

Thus, developers need to consider user experience and accessibility during the design process and aim to create new alternatives to fight violence against women. After a recent study on usability and user interface evaluation for mobile apps, Quezada Bolaños and Gallardo-López (2023) assert that acceptance and adoption rates of some applications still require improvement. This research identified usability issues in the patterns of user graphic interface, highlighting the importance of a user-centered design that boosts effectiveness and overall adoption of technological tools.

Consequently, digital application designers must carefully consider how violence against women is being represented through assets. This might imply collaborating with experts in gender and violence to make sure any information presented is precise and well-founded through a solid comprehension of the topic. Additionally, it is essential to incorporate specific design elements to improve the accessibility and usability of the app for every woman suffering from violence. Lastly, a careful representation of violence against women in digital applications might help to create an improved consciousness about the issue and foster proper countermeasures.

Information Design in the development of digital applications

Information Design (ID) is a discipline focused on creating visual representations, where the ultimate goal is achieving clarity when presenting complex data, whether because it is dealing with information from wide databases or because such data stems from a specialized and hardly accessible topic.

ID is based on both strategies and criteria that prioritize data management, placing an emphasis on users' needs, and only then seek an appropriate presentation format, leading to synergies among scientific disciplines (Pontis, 2019; Pontis and Babwahsingh, 2023).

The process of analyzing informative texts written by three different newspaper publishers about violence against women in the span of one year has provided a plentiful amount of data, which by itself is not explicit enough to be presented to common people. In order to allow readers for content appreciation and realize about hidden interactions among pieces of information, there is an evident need to apply organization, selection, and classification processes for the topics involved, thus reaching a desired visualization of data, one that reveals and synthesizes what the reader is expected to perceive, hence the need for ID.

Information is always within our reach, however, due to cultural and social matters, such as informative literacy, readers are often carried away merely by redaction when interacting with texts from newspapers, since they present facts in a way that minimizes or deflects attention through specific methods of expression and omission of information,

which ultimately affect deeper interpretation of the situation discussed (Estrada-Cuzcano *et al.*, 2020).

The phenomenon mentioned above becomes even more notorious when dealing with violence-related issues, since our culture tends to safeguard victims and make them invisible, probably due to an altruistic desire for protection, or social practices carried out unconsciously, tied to the negative and alarmist nature of this concept.

Thus, certain information aspects are prevented from reaching the audience, omitted data can indeed be key in the construction of a wider panorama about what is happening, amplifying the understanding of specific contexts, and allowing readers to dimension both the topic and the actors involved while consuming written content.

Information Design can be helpful in this regard, by displaying precision and veracity-driven storytelling that reveals data which, despite being present in newspaper texts, have remained concealed or ignored due to redaction and presentation to the public.

It is imperative to incorporate Information Design into projects of this nature, since it can handle abundant data and complex topics and aims to provide visual solutions that present information clearly, enhancing understanding and comprehension.

The most distinctive feature of Information Design is that its execution involves management procedures, that is to say, identification, classification, organization, and depuration of data to extract those pieces of information with the potential of yielding valuable outputs, which will be later converted into an engaging visual form and carry a highly significant value.

All the processes involved are performed under a human-centered vision; thus, ID employs techniques focused on people's needs, leading to highly contextual results (Pontis, 2019), which enhance efficiency and capabilities in a way that can aid a wide variety of profiles.

The goal of employing ID is to adopt an approach that cognitively facilitates information access, and the obtained results acquire the potential of unveiling hidden data, helping people to carry out varied activities in an efficient way, or seeing through a different lens at what would otherwise become monotonous.

When the way to achieve results is mostly visual, Information Design relies on visual rhetoric and graphic design, a tightly related discipline that boosts picture potential, amplifying its range by employing diverse typographies, colors, compositions, illustrations, and adhering to several visual principles (Baer, 2008; Meirelles, 2013; Visocky O'Grady and Visocky O'Grady, 2008).

Additionally, working on digital applications allows to rely on user-centered techniques, such as experience design (UX), and conducting usability tests to measure specific design aspects, such as navigation and informative content access, all of the aforementioned adhering to an approach oriented to those who are expected to use the application (Aguirre *et al.*, 2020; Gallardo Cárdenas, 2024).

By applying ID principles, the obtained visual outcomes acquire quality features capable of resonating with the audience, while also granting the potential of revealing information that would otherwise remain hidden. This is quite a desirable scenario when analyzing journalism data, since several times the audience does not conduct an information filtering process, convinced of the efficiency of previous editorial processes, automatically placing said data under the spotlight of objectivity and freedom of expression, which is ultimately tied to the notions of truth (Suárez Villegas, 2014).

The primary aim of this article is to present the development process of a digital application that will be introduced to both the general public and research communities interested in the topic. A preliminary analysis seeks to deepen the understanding of user experience and related information through usability testing that simultaneously incorporates ethnographic processes, as the user experience is directly shaped by data visualization.

Documenting this phase of the project is of vital importance, since it contributes to the main area of knowledge involved, which is informative app design focused on gender violence, being inherently capable of reaching common people, as well as specialists.

Methodology

This is a qualitative study that makes use of Information Design and relies on user-centered design and experience design processes, which at the same time employ ethnographic techniques to gather data from a group of test users. The application design consisted of three stages, which began in 2022 and concluded in 2024, each one followed the principles of Information Design. These phases were conducted as described below:

1. Information management. During this stage, newspaper texts related to violence against women in 2022 were analyzed, involving three different newspapers published in Puebla, Mexico. The analysis included headlines, frequency of appearance, and the position in which articles were placed, including their diagramming. As a reference for this process, the official classification of violence against women provided by the United Nations was consulted. The early stages of this research were presented in an article published by Mata-Santel *et al.* (2023). As a result, this phase witnessed a qualitative analysis through a

series of visual representations that would allow for comparison of information categories and display them under certain focuses. Additionally, a data classification process was conducted, molding information for its employment in visual designs that figuratively display the analysis findings.

2. The second stage entails application interface development, which took place in three phases: graphic identity design, information architecture, and graphic interface design; and finally, feedback collection from potential users. This article is centered on diving into the processes conducted during this phase.
3. The last stage involves app optimization and the multidisciplinary collaboration with developer experts, as well as the assessment of the application. This stage is still under development.

This article aims to display a preliminary evaluation that proves the efficiency of the digital information system, which is shaped into an app called “Visibilízame” that will present the collected data. This app intends to make use of its interface to show common people various analyses of newspaper texts from three different newspaper publishers related to gender violence documented in the state of Puebla.

Both the visualization of processed information and the interface were simultaneously developed. The objective of this stage is to conduct usability tests to confirm the functionality of the app, as well as detect areas of improvement. Tests were initially focused on the aesthetic aspects and visual functions of different elements in the screen; in the second place, the facility to find the desired information through the app’s navigation and general use.

The aim is to assess the effectiveness of the interface and ease of interaction with it. To this end, usability tests were conducted at this stage to generate an initial innovation cycle (Buxton, 2007), using low-fidelity prototypes (Snyder, 2003) in which the main screens that make up the application’s navigation map were represented through the wire-framing technique.

For participant selection, a convenience sampling was conducted (Mercado Piedra and Coronado Manqueros, 2021; Otzen and Manterola, 2017), which is an accepted approach for initial tests of a system, since the priority is availability from volunteers to dive into trustworthy data.

It was also sought to measure the app’s graphic identity effectiveness, due to the key role it plays in user perception, while also being an aspect that might boost user navigation experience.

The design of the app’s first version was completed after approximately three months. This span of time involved varied fundamental activities,

such as: analysis of content requirements, including data categorization based on newspaper texts; the establishment of the navigation structure, considering both levels and sublevels of each section; and finally visual identity development, which started from the name selection for the app, typography selection, color pallet creation and the development of the style of visual elements. In the following sections, the graphic identity and interface processes are detailed, aiming to provide readers with a further understanding of the design process.

Graphic identity design

This stage focuses on the creation of a visual identity for the application. Establishing the visual elements that will define the app, including a logotype, color pallet, typography, and other graphical elements such as illustrations and icons. This process took approximately three months. In the first step, the name of the app was decided: “Visibilízame”; from this decision, an identifying symbol was needed. The initial letter of the name proved to be a strong and easily recognizable graphic element, which led to several design tests exploring its use as the central visual feature (figure 1).

Figure 1.
Identifying symbol of “Visibilízame”.



Source: Arroyo et al., 2024.

Once the logotype selection was settled, it was appropriate to define the color palette. According to Moral Jiménez and González (2022), color is one of the most powerful visual elements in information transmission. Color is highly relevant in visual information design, as it guides the reading process and supports the intuitive processing of data (Frankel, 2024) by directing the user’s attention to key aspects, creating hierarchical relationships through variations in saturation or intensity, establishing contrasts, classifying and separating zones, and overall creating environments that enhance the cognitive processing of visual and textual information (Baer, 2008). As a result, these practices foster a deeper interactive experience through the visualization of what is displayed on screen.

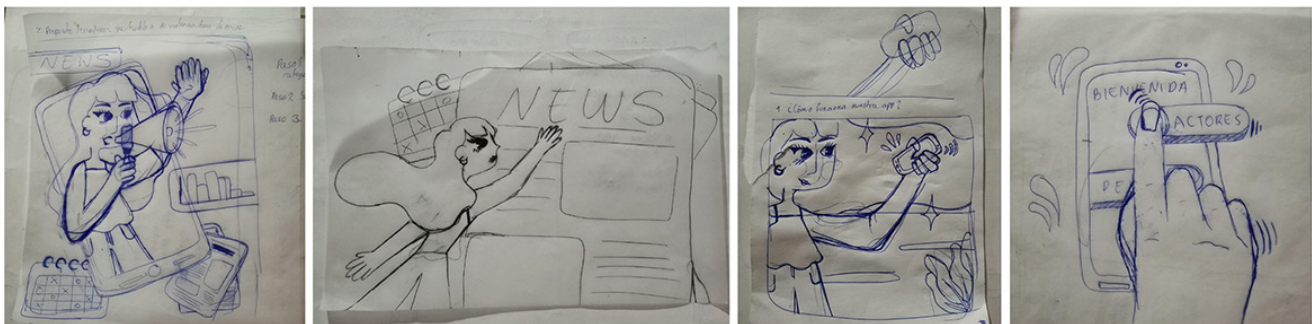
Thus, it was decided to employ a purple-themed palette, since it creates a connection between the app and the importance of bringing to light this social issue by linking it to feminist movements. This decision remained within secondary graphic identity elements; however, there was also a necessity to separate the three main information categories of the app, due to the sole use of purple and other similar colors, resulting in monotonous and hard-to-use navigation. Hence a representative color for each category was defined: blue destined to newspapers, green for actors, and orange for violence.

Another crucial graphical element for navigation and identification of information categories was icon design. First, an iconographic search was conducted in order to find shapes employed in application development. Afterwards, a total of sixteen icons were defined. In some cases, icons with a widely known meaning were employed since people were already familiarized with them, such as the concept of information, merely adapting icons to the visual style of the desired graphic identity; however, for most cases, it was required to develop specific designs exclusively for the app, the newspaper icon being one example of such practice.

Finally, a series of illustrations were designed, aiming to provide a friendlier graphic environment and serve as a welcome mat for every section of the app. A *storyboard* was also developed in order to define the needs and contents of illustrations. Once finished, an analog sketching process was conducted to approve these ideas; consequently, different graphic styles were showcased, and finally, a *flat design* style was chosen, since it grants qualities that complement visual identity (figure 2).

Figure 2.

Analog sketching of illustrations for the “Visibilízame” app.



Source: Arroyo et al., 2024.

Data architecture and graphic interface design.

This stage entailed the organization and structuring of data within the app. It also involved shaping interface design so that users could access information intuitively and efficiently. At the same time, it included the creation of site maps, flow diagrams, and the navigation outline. The interface design

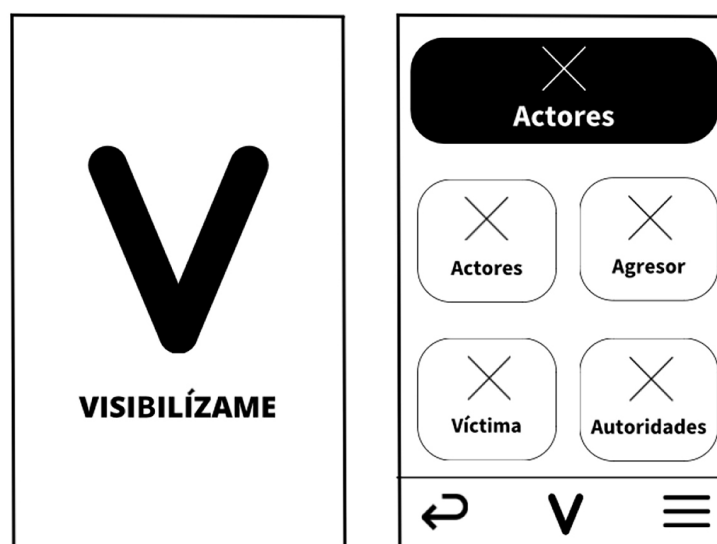
also required developing the visual elements that users were expected to interact with, such as buttons, forms, menus, and other navigation components. The final design of each menu screen within the app was also established, a process that involved arranging elements and ensuring a coherent visual style aligned with the previously defined graphic identity.

The design of the graphic interface was developed within three stages:

Low-fidelity wireframes. This stage focuses on the schematic development of the contents that allow information graphic output. Black-and-white sketches were presented, showcasing the distribution, hierarchy, and composition of the data (figure 3).

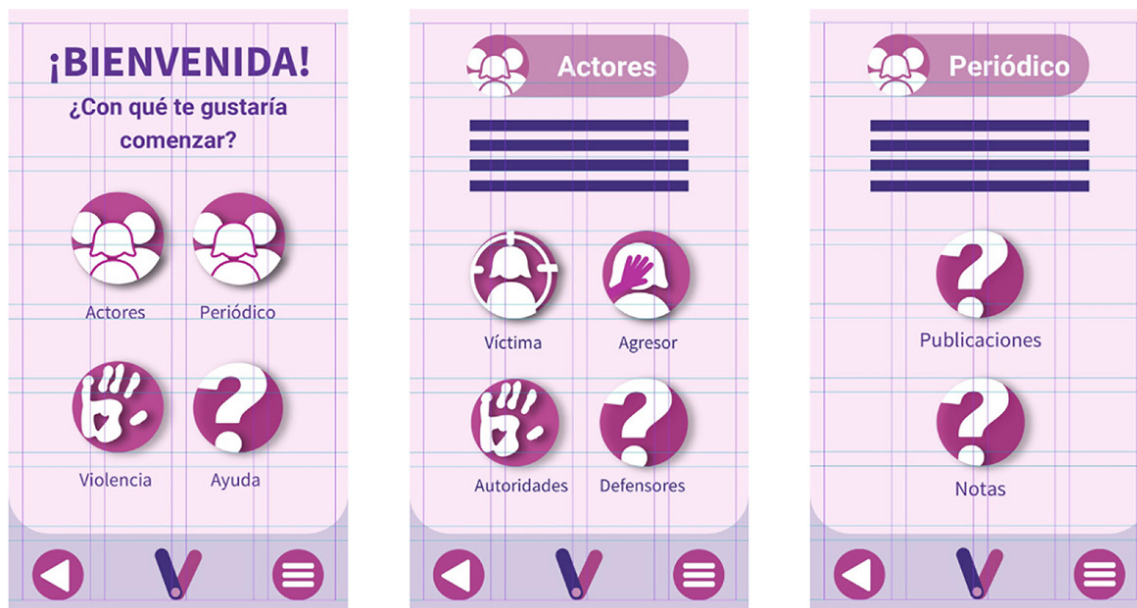
Source: Arroyo et al, 2024.

Figure 3.
Low-fidelity wireframes.



Mid-fidelity wireframes. It is safe to say this phase was the most meticulous, since it defined the elements that would be used for the usability, accessibility, and aesthetic for each screen menu. Several navigation errors were identified, and sketches were carefully drawn, showcasing editorial design elements, as well as employing reticules, styles, text processing and chromaticity (figure 4).

Figure 4.
Mid-fidelity wireframes.



Source: Arroyo et al 2024.

High-fidelity wireframes. This last stage serves as a catalyst to polish the aesthetic features of screen menus, as well as the optimization of the color palette in order to break the monotony of a previously agreed, purple-themed spectrum. Additionally, icons intended to facilitate navigation were implemented (figure 5).

Figure 5.
High-fidelity wireframes.



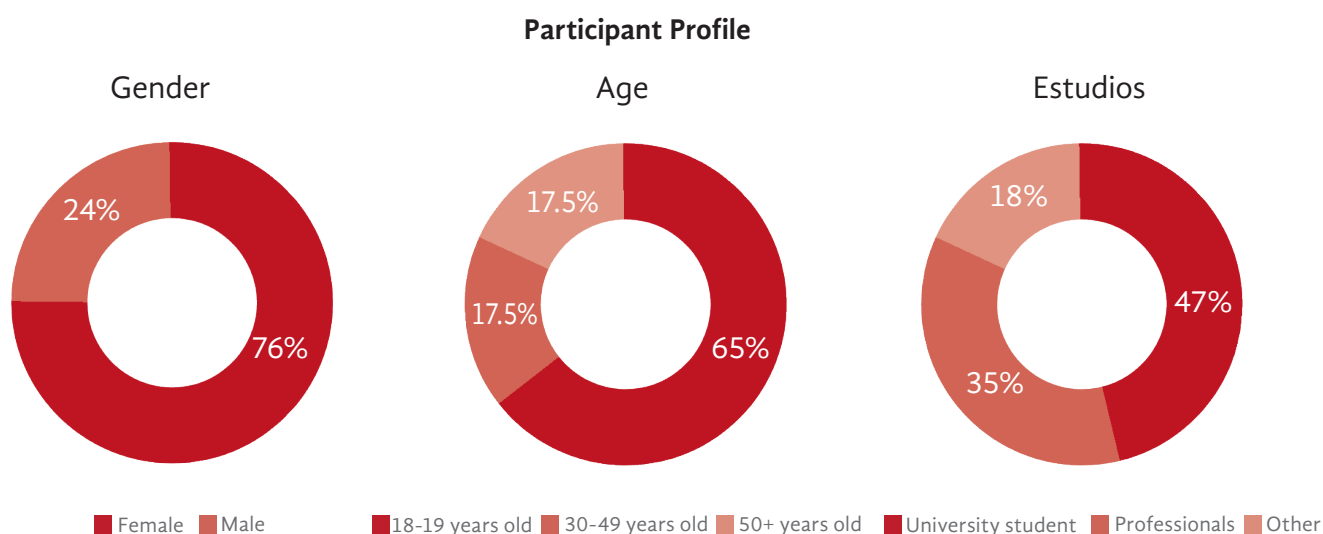
Source: Arroyo et al, 2024.

Analysis and findings

While designing digital systems, it is imperative to conduct early tests that reinforce design decisions, since it has been proved that it further increases the efficiency of the development process, thus reducing the expense of both material and human resources (Snyder, 2003), helping to produce efficient outcomes that will most certainly be useful for users (Aguirre *et al*, 2020).

The testing process was conducted in four weeks and involved both the search for volunteers and actual user experience tests. Observations and annotations were made following the recommendations found in the literature review regarding ethnographic studies. In total, seventeen subjects were interviewed, and all of them participated in usability as well as visual identity effectiveness tests. Detailed demographic information is presented in figure 6.

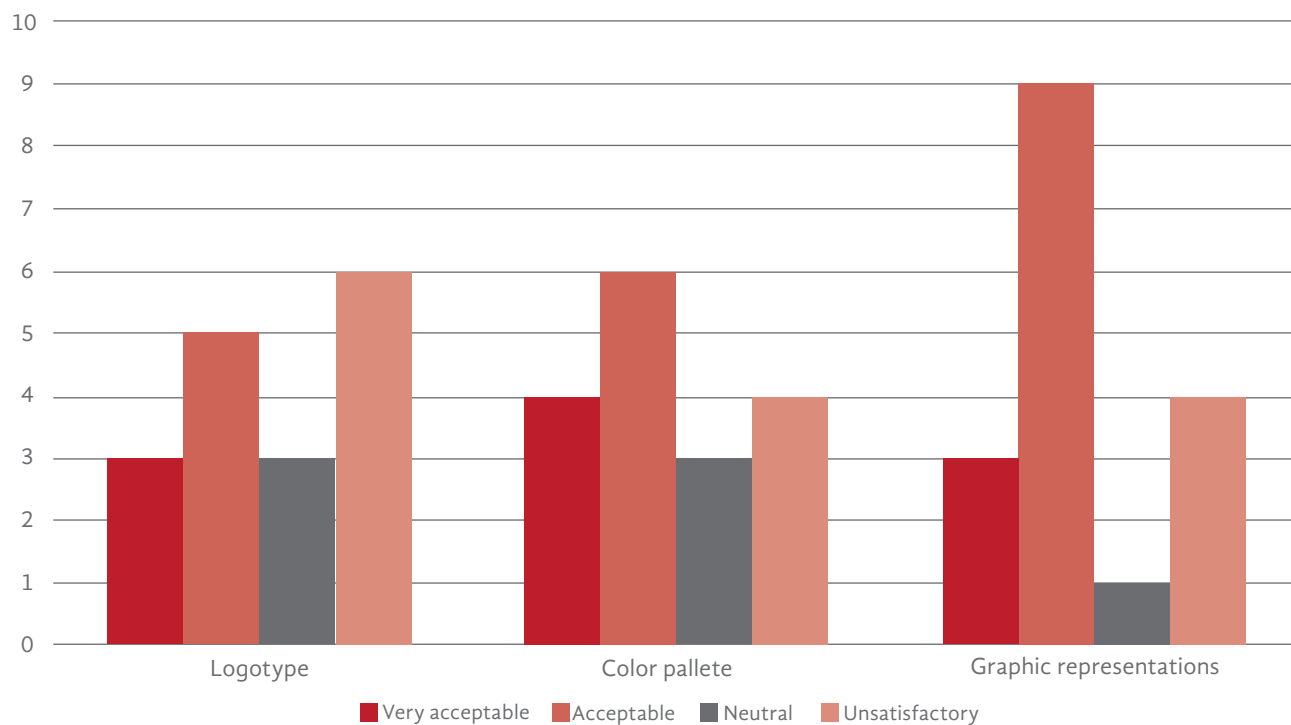
Figure 6.
Participant profile for evaluations.



Before beginning with the testing process, a scale to measure results was established through five labels: Very acceptable, Acceptable, Neutral, Unsatisfying, and Very unsatisfying. When assessing the results obtained, this scale was employed following two parameters: a) observations during the test and b) comments provided by participants in the interview conducted after the tests.

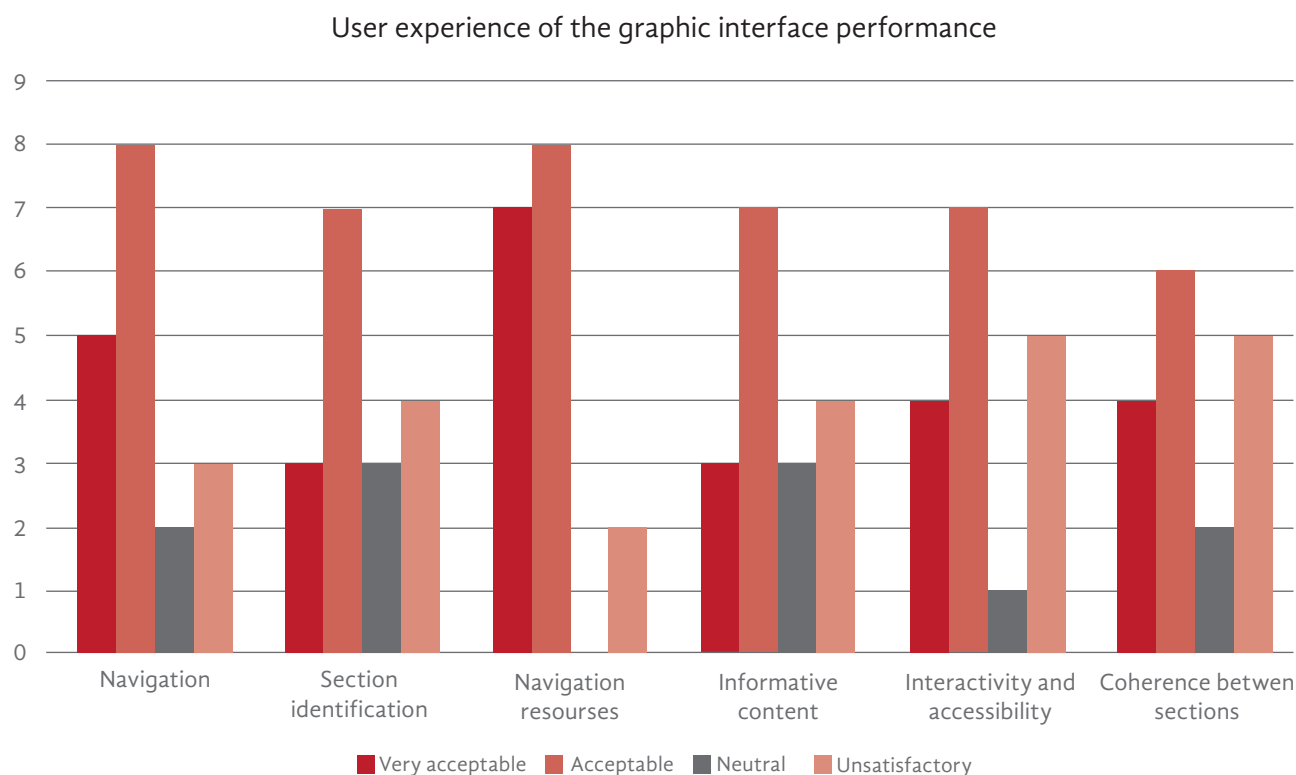
Additionally, to acquire a deeper insight during tests, two main evaluation categories were considered: 1) Visual feature performance and 2) Use experience of the graphic interface performance.

The first category conveys three topics: logotype, color palette, and visual representations. The results obtained are shown in figure 7. It is worth noting that these graphics do not include the "Very unsatisfying" category, since no participant registered such a response.

Figure 7.*Visual interface performance results.***Visual feature performance**

The second category involves the following topics: navigation, section identification, navigation resources, informative content, interactivity, accessibility, and coherence between sections. Results can be found in figure 8. It is worth noting that these graphics do not include the “Very unsatisfying” category, since no participant registered such a response.

Figure 8.
Results of the User Experience with the Interface.



Graphics belonging to figures seven and eight show positive feedback from participants in terms of the visual aspect and use experience, since the most chosen labels is “Acceptable”, followed by “Very acceptable”. The aforementioned can be interpreted as a sign that, in general terms, subjects had a pleasant user experience, and there are interface elements in need of revision. In order to comprehend areas of opportunity, it is necessary to analyze each category by labels.

In terms of the first category, which relates to visual identity effectiveness, results gathered from figure 7 will be interpreted by considering graphic quality, its significance, and coherence in communication.

Starting from graphic quality and significance, and in light of the high presence of “Acceptable” and “Very acceptable” labels, it was concluded that 47% of participants recognized the “V” from the logo as a representation of the name “Visibilizame” and also related it to the app’s welcome screen. Some others related this letter to gender violence, or the welcome screen only. On the other hand, 18% of participants could not understand the intention of the opening menu which was the logotype with an initialization button; said percentage of participants either did not interact with the logo, or it went unnoticed for them. This is especially true for the black and white versions, demonstrating the limitations brought by these colors to attract attention. In that regard,

35% expressed that this visual element was not memorable enough, thus placing it under the “Unsatisfying” section; added to the difficulty to interpret it by another 18%, tagging it as “Neutral”, it can be concluded that, to improve significance, appropriate visual elements must be included within the app, reinforcing logotype meaning so users can recognize it and remember it easily.

Moving on to coherence in communication, the most remarked feature was color use. According to 58% of participants, who chose the “Acceptable” and “Very acceptable” label, it is confirmed that the logotype’s color palette (purple- themed) can certainly be associated with feminism, which translates to a positive conception. Besides, more than half of users stated that a three-section chromatic palette (green, blue, and orange) is fitting to distinguish sections and improve navigation experience. These positive reviews contributed to the individual identification of sections when browsing, thus facilitating content comprehension. However, when analyzing results, the “Unsatisfying” and “Neutral” labels add up to 42% of participants, a sign that correction is needed. This idea is further reinforced when revising interviews, where some users highlighted the necessity of improving color contrast so content can be legible, especially benefiting people with visual difficulties, and improving accessibility for the whole audience.

Another highlight was functionality and visual representation impact, where “Very acceptable” and “Acceptable” label selection translates to 71% of effectiveness. In particular, participants mentioned secondary graphic elements, such as cover illustrations for each section. These illustrations play a key role in the user navigation experience, as well as the understanding of the contents. Overall, graphic quality was praised and regarded as “attractive” and a vehicle for a further comprehension of information, since they are directly related to said data. These graphic elements are positively reviewed because they contribute to the app being more interactive and accessible, invaluable features in a complex topic such as violence against women, indeed.

In terms of usability tests, figure 8 reassures that results have been positive, since participants managed to achieve the assigned tasks, and were able to find the required information. 41% of participants regarded informative graphic elements as acceptable, due to their contribution to visualizing data in an effective way, while 18% marked this category as “Very acceptable”. Additionally, 24% also found “Very acceptable” the coherence between sections, while 35% found it “Acceptable”.

Areas of improvement were mainly found in the design of navigation resources, which involve buttons and icons, since 12% of participants found inconsistencies in the visual style of these graphic elements on secondary screens. Thus, it is imperative to revise once again this visual information system to make it more uniform and easier to understand. Additionally, within the previously mentioned percentage, some participants expected

illustrations to be interactive; such expectation was translated to confusion in terms of their functionality. However, when considering the “Acceptable” and “Very acceptable” label selection rate, both categories represent a total of 88%, which is why, in general terms, it is safe to consider the Navigation resources aspect as successful.

When approaching navigation within the informative system, it is worth mentioning that most interviewees browsed without any confusion through each screen menu, achieving a total of 47% for the “Acceptable” label and 29% for the “Very acceptable” label. This can be translated to a successful and intuitive navigation. Most participants correctly identified buttons with basic functions such as Menu, Home, and Back. However, an issue that caused confusion in 23% of volunteers was the navigation experience between sections; it was mentioned that repetition while browsing triggered difficulties in distinguishing between interactive and static elements. Finally, some of the employed terms proved to be hardly intuitive, which affected content anticipation within each section.

It would be appropriate to clarify that these have been early tests of the informative system, which employed prototypes in the form of wireframes, which means that, after addressing each of the identified areas of improvement, a consequent test round will be conducted by providing a further advanced version of the app.

◆ Conclusions

The triggered synergies between Information Design’s vision and the UX approach, as well as the ethnography perspective, have yielded positive results, since it was possible to gather enough data to confirm that the current functionality of the informative system is proceeding on the right path. This application can be seen as sympathetic by the people who use it, due to the fact it provides the information users need easily, while also allowing for a friendly navigation experience.

Including Information Design proved to be priceless, since it allowed design efforts to focus on information processing, obtain a product that offers an accessible informative experience, facilitate cognitive procedures while browsing the app, and provide interfaces that communicate understandable information.

The development of the “Visibilizame” app has been a collaborative effort between researchers and graphic design students. It attempts to provide a higher transparency to the way in which journalism articles portray issues, unveiling aspects regarding how media provides information, and enabling access to a wide panorama with enough data to discern these hidden elements from the citizenry.

Lastly, results obtained from these early tests suggest the app’s high potential to bring significant social impact. While it is true that this tool already has a certain degree of effectiveness in its current form,

necessary adjustments will guarantee that the user experience will be even more fruitful, accessible, and memorable. Such advancements can strengthen app effectiveness, aiming to sensitize and educate common people about gender violence, leading to a contribution to social change and fostering the flourishing of fair and equal communities.📍

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