

# EL MERCADITO WEB: AN ALTERNATIVE FOR REMOTE SALES FROM LOCAL MERCHANTS

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## ABSTRACT

This article presents the problem of the effects on local trade and sales of micro and small entrepreneurs in Mexico City (CDMX), which arise from the COVID-19 pandemic. It raises the development of a proposal for a solution for distance sales of users not assiduous to the use of technology for sales. Also, it explains the development of an interface called El Mercadito Web, whose objective is to contribute to maintaining sales in neighborhoods using different communication channels, concentrated in a simple interface free and easy to use. The development process responds to stages of User Centered Design (UCD). Finally, the scope and limitations are described, as well as the proposals to improve the prototype designed from its evaluation with the users.

## KEYWORDS

Local Commerce, Distance Sales, COVID-19, Human-Computer Interaction, User Centered Design, Prototyping

## 1. INTRODUCTION

As a result of the global pandemic caused by COVID-19, trade in Mexico suffered a destabilization, mainly affecting micro, small and medium-sized enterprises (MSME), some of which had to close their businesses or seek other alternatives for sale. For the Mexican context, it was very difficult to think that local merchants would continue to be unable to sell since it is through them that jobs are generated and families that are up to date are sustained. Along with the crisis, a new way of selling at a distance emerged; online sales have become an option for MSME, rescuing traditional and local commerce.

The purpose of this article is to show the development of a prototype that arises from the use of an interactive systems design approach: User Centered Design (UCD). The platform called El Mercadito Web is proposed as a solution to the difficulty of continuing to sell. A site developed for local merchants with the purpose of promoting their distance sales; easy to use and intuitive, avoiding user uncertainty, integrating some of the existing sales forms or those that have been used organically such as WhatsApp and Facebook.

This article is organized as follows. Section 2 contextualizes the current situation in Mexico, specifically Mexico City (CDMX); local commerce and sales derived from confinement by COVID-19 are also retaken; then, the relevance of the El Mercadito Web proposal as an HCI project is explained, where the use of these tools is justified according to UX Design and UI Design; as well as the objective for which it was created is described. In section 3, a state of the question is presented regarding platforms focused on distance sales and which served as inspiration for the development of the El Mercadito Web interface. In section 4, the process and methodology used for the development of a prototype and prototype are described, as well as the main results of the tests carried out on users. Finally, in section 5, the conclusions are presented showing if the project to be developed was viable, why, and what future work is intended to be carried out with it.

## 2. MAIN PROBLEM

The world is experiencing a humanitarian, health and economic crisis. Following the COVID-19 pandemic, the economies closed and stalled. According to the Confederación Patronal de la República Mexicana [(Confederation of Employers of the Mexican Republic (COPARMEX cited in Infobae, 2020))], the health crisis the country is in has caused eight jobs to be lost per minute; likewise, the president of the Confederación de Cámaras Nacionales de Comercio, Servicios y Turismo [(Confederation of National Chambers of Commerce, Services and Tourism (CONCANACO))], José Manuel López Campos, indicated the urgency of implementing strategies that help more than 4.1 million micro, small and medium-sized companies.

By the end of March, CONCANACO reported that the losses due to the closure of 64,758 establishments in Mexico City, derived from the containment measures announced by the government before the contingency, amounted to 3 billion pesos (Forbes, 2020). The most affected industries, according to CONCANACO and INEGI estimates (cited in Saldaña, 2020) were the commerce, services and tourism sector. For May, the situation of MSME became more acute, since they had a loss of sales of 112 billion pesos, which represented a decrease in sales of 83 percent, compared to the period last year. According to the Organización Acción Ciudadana Frente a la Pobreza [(Citizen Action Organization Against Poverty (cited in Arista and Ortega, 2020))], 12.4 million people in Mexico are self-employed and 21 million work in micro and small economic units.

Derived from this situation, alternatives arose that had aim to help small businesses, with the aim of restoring the economic dynamics by connecting businesses that have distance sales with potential customers. Online sales or e-commerce have become an option for MSME to continue selling their products remotely, whether through home delivery, WhatsApp groups, Facebook, or even partnering with companies like Amazon, to be able to offer their products. For the Alianza Nacional de Pequeños Comerciantes [(National Alliance of Small Merchants (ANPEC))] during the quarantine, local sales grew by 20 percent, as people began to head to the stores in the neighborhood (Mex Newz, 2020). In the words of Cuauhtémoc Rivera, president of ANPEC, “traditional commerce has found digital commerce to complement each other, which encourages the local economy to move”.

For this reason, El Mercadito Web appears as an alternative to support local commerce; this with the purpose of helping sellers not see their income affected and continue to cover their expenses, with a view to that even after the pandemic this platform can continue to be used.

## 3. STATE OF THE ART

WhatsApp (founded in 2009) is an application whose main function is communication and instant messaging between users through chat. During the confinement of the COVID-19 pandemic, the creation of sales groups in limited areas, such as the colonies, proliferated in Mexico City to offer products in a delimited area. This tool began to be used because there is easy of delivery due to the distance between users, it creates a network of trust between neighbors and it is considered that it supports the local economy and those merchants who, due to various situations, had to close their stores, as well as people who entered the world of sales or services when they became unemployed. WhatsApp facilitates direct communication between the buyer and the seller, as well as the contact for deliveries and shipping locations. However, one of the limitations is that there is no order to offer products or consult a specific one. There is no catalog, nor categorization of products or services.

Other of the applications or platforms that exist or are used for sales is Facebook (founded in 2004). Facebook has various channels to sale such as Fan pages, Marketplace or groups, like WhatsApp. Facebook enables direct communication between seller and buyer; Marketplace or the store section of Fan pages, allow to upload products in an orderly way and consulted more easily than on WhatsApp. The downside of Facebook is that it requires creating an account or profile and having a grasp of how it works.

Another platform that served as inspiration and that is more related to the sale of local trade products is Red Maceta (<http://www.redmaceta.com/>). It works through a web page, where both producers and customers can enter and find products by category. Merge the use of WhatsApp, Facebook, email and the online store. It has hours to make purchases and notifies the user if they are out of it. It has a video tutorial that explains how it works and how to make purchases or register as a seller. Use simple and colloquial language to point out the

sections and take the user easily through the page. It appeals to the idea of creating community and supporting the local, so it does not only focus on a user design based on business needs.

In addition to the previous examples, there are consolidated platforms for the sale of products at a distance. However, it seeks to generate a platform that inspires trust among users who are not experts in the use of applications or the Internet and who have the need to continue selling despite the closure of shops, markets or street markets, offering as a first option to do so in an area close to your premises or business, where they don't even need to hire a delivery man. In addition, it is sought that they do not lose part of their sales in the payment of commissions for managing a platform and that they do not need the use of data or Internet access.

## **4. DEVELOPMENT PROCESS OF EL MERCADITO WEB**

Since its inception, El Mercado Web was thought of as a user-friendly interface, so always the comments made during the observations and evaluations of the tool were considered. With the evaluation of the prototype, the level of usability and ease of navigation that the user had with it was detected, as well as usability aspects were taken into account as a pleasant and intuitive design, facilitating the user to move within the page, without this it will either stress or make the user to feel inefficient. Basing the project on HCI helped prioritize user needs and avoid developer bias, as it was constantly used to resolve user and navigation conflicts. The main process of development included the next steps which are going to be explained below: detection of needs, storyboard, inspiration board and point of view, prototype, digital prototype and heuristic evaluation.

### **4.1 Detection of Needs**

As explained in the problem section, the pandemic generated by COVID-19 has brought social and economic consequences. The dynamics of buying and selling have had to be adapted due to social distancing measures. For this reason, as a first approach to detect changes in people's routines during quarantine, a group of users was observed through video calls or face-to-face observations with relatives or acquaintances. A brief semi-structured interview was applied to them and from this some profiles emerged, among which, there were users dedicated to trade, who faced the difficulties of having to sell remotely through technological platforms. Added to the fact that some WhatsApp groups created from the pandemic were observed, as a local initiative of neighbors to promote consumption in their surround.

A detection of the main needs of the observed users was made and by means of brainstorming only fifteen of them were extracted, highlighting: sales revenue, the possibility of selling remotely with due precautions, taking advantage of technological tools that were not complicated to use, nor need more experience to use them. They also sought to sell through calls or messages and that they did not cost or charge a commission, as some platforms that already exist do, which were discussed in a previous section.

From these observations, a type of user was defined: local merchants, not experts in the use of technology and whose businesses have not entered the market for distance or Internet sales, but who were forced to think about to do so in order to continue obtaining economic income.

### **4.2 Communication Exercise with the Team: Storyboard**

Once the types of users were defined, the problems to be addressed and the main needs of these, various storyboards were developed among the members of the research team, to determine if they agreed on the way the solution was visualized. For this, the user was visualized and how he felt facing the problem of selling from a distance, his emotions, concerns or feelings, as well as a scenario of his day to day. The storyboard together with the previous interviews with the users, helped to generate a narrative of the problem, the knot or climax of the situation and the outcome. When working on HCI projects, it is important not to start with the researchers' preconceptions, but to really think about the user, recognize what they are concerned about, what they feel, and thus be able to offer them a solution, rather than a technological one, focused on enabling them to fulfill an objective that helps them feel fulfilled.

### 4.3 Inspiration Board and Point of View

After the storyboards were reviewed, the team discussed what keywords had to be considered to generate a platform that was mainly intuitive and that facilitated the main detected need: selling remotely. In order to delimit these ideas, the inspirational words and their meaning were discussed, then we looked for existing platforms (although they were not explicitly dedicated to sales) that would help in visualizing what the El Mercado Web platform would look like. These platforms inspire design option and some of the main functions for the interface proposal. Inspirational words were: free, confident, intuitive, quality, visually attractive, interaction, upgradeable, and diversification.

In addition, a point of view that encompasses the needs of users was determined, which was: *an interface that can be used from a mobile phone and that facilitates remote sales, in which local merchants can increase their customers and sales.*

### 4.4 Pretotype

According to Pretotype Labs LLC co-founder Alberto Savoia (quoted in the leader summaries digital library), "*pretotyping is focused on answering a basic and important question: what is there to build?*" Pretotypes make it possible to gather valuable user data and interface functionality, this in order to continue or not with the development of the proposed idea, using less time and cost than a prototype (Savoia, 2013).

For the development of the pretotype we focus on two techniques: Minimum Viable Product (MVP) and False Door; in the first, we return to basic characteristics that the final interface would have, such as user registration, product registration and sale; in the second, the technique allowed us to show what the final product would look like, the interaction that could exist between the user and the interface, and whether the design would capture the attention of the same. The way we used these techniques was with a video, which was uploaded to the YouTube platform; this video was shared on WhatsApp to users that we already had identified, they were asked to watch it and answer the questions: would you use this website? And why?



Figure 1. Youtube Analytics for the pretotype activity

The results obtained by the users were favorable, the video was attractive to them and in some way El Mercado Web solved the need to follow or start remote sales (see Figure 1). Some of the suggested comments were considered for the development of the final prototype and others remain as future work, which will be explained later. It is worth mentioning that when the video was uploaded on a platform like YouTube, we had more visits than we expected, which led us to the conclusion that the pretotype was of interest to other users than ours.

### 4.5 Digital Prototype

The development of the prototype was divided into two facets; in the first, the Genially (Online software that allows you to create animated and interactive presentations) tool was used; this software allowed the user to navigate, basically, through screens, which contained interaction with start buttons, return, next, sell product, register product, among others (<https://view.genial.ly/5edb191c3498730d8f39a54e/interactive-content-mi-mercado-atari>).

From this first test for users, the following improvements were obtained:

- Interface focused especially on users who sell products from the basic basket.
- The layout of the registration and payment process was modified to make it more intuitive.
- Sizes and font types, color palette and menu type were approved.

Once the previous suggestions were included, the second and last facet of the final prototype was carried out. Genially is a limited tool for interaction, for this reason the final version of the prototype was developed in adobe XD, which allowed greater control of the functions and the final design. Sketches with different interactions and transitions were generated that improved the usability of the prototype.

Likewise, when developing the prototype, the 10 heuristics of Jakob Nielsen (<https://www.nngroup.com/articles/ten-usability-heuristics/>) were considered, which in the next point will evaluate the relevance of the prototype with the user.

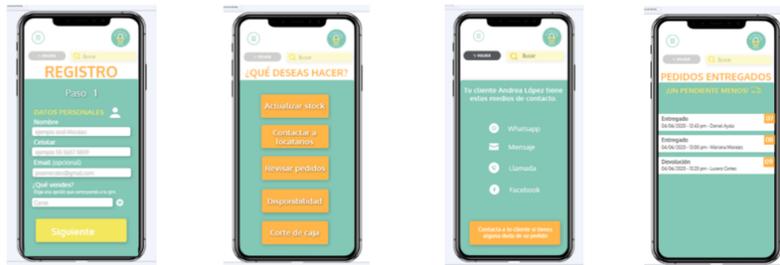


Figure 2. Customer record    Figure 3. Menu    Figure 4. Confirm order    Figure 5. Orders issued



Figure 6. Welcome to El Mercadito Web    Figure 7. Personal data registration    Figure 8. Payment forms



Figure 9. Contact    Figure 10. Main menu    Figure 11. Order



Figure 12. Stock    Figure 13. Orders Issued    Figure 14. Day's sales

## 4.6 Heuristic Evaluation

According to Mónica Gimenez (2017), a heuristic analysis is *"a technique to evaluate the usability of a system of interfaces and processes by an expert, based on the principles of the discipline of human-computer interaction"*. This analysis, in which the user experience intervenes, helps us find usability errors in the system, obtaining conclusions and proposals for improvements that should be implemented. The criteria to evaluate within the prototype were as follows: 1) Show system status, 2) Family metaphors and language, 3) Control and freedom, 4) Consistency, 5) Error prevention, 6) Memory recognition, 7) Flexibility and efficiency, 8) Aesthetic and minimalist design, 9) Recognition, diagnosis and recovery from errors and 10) Help. The way in which the functionality of the interface was determined was through an interview with users, in which they evaluated two activities: browsing the El Mercadito Web and placing an order.

To evaluate the heuristics, descriptions of actions were made that were related to each one, in such a way that they were easier to understand for those who were evaluating Mi Mercadito Web. Subsequently, questions were asked about them, which allowed obtaining important data on the usability of the prototype. The heuristics in which the users agreed that they were not within the interface or were not easy to identify were: 1) Control and freedom, 2) Family metaphors and language, 3) Help, 4) Memory recognition, 5) Show system status and 6) Consistency.

One of the modifications that was made after the evaluation had to do with the heuristic control and freedom of the user; based on user feedback, the following modifications were made to the final prototype:

- Increased options on the burger menu
- Placing the total of the account when filling the order

## 5. CONCLUSIONS AND FURTHER WORK

The development of El Mercadito Web allowed us to try to conceive a pertinent prototype by knowing our final users, so the process was not focus only on aesthetics, but on solving problems that arise from changes in society, such as those generated due to the Covid-19 pandemic. However, we detect that in our prototype is necessary to reinforce several deficiencies and errors pointed out by users in the evaluation stage, as well as considering the heuristics that generated problems in the usability of the system like control and freedom, help, consistency, family metaphors and language, to mention just a few.

Other recommendations that users gave us were that the colors used were not very striking for the interface that was proposed and that it was necessary to have more menus and categories, as well as help options to facilitate its navigation. We believe that the project could really help local merchants, but more interaction with the user is needed, because due to the restrictions implemented by the pandemic situation, we were not able to interact in person with more of them. In this way, we could obtain more specific ideas or observations to improve El Mercadito Web.

Regarding future proposals, we can point out that there is an opportunity for El Mercadito Web to be used, however, the tools with which the prototype was developed were limited, which did not allow users to know a real operation, nor could they interact with their own data, nor did they allow them to reach the stage of making a sale and that they knew if it was functional for their needs.

On the other hand, when the project was proposed, it was intended to be an interface that would host not only the sale of basic products, but also concentrate services and multiple products that are not essential items, such as those offered in WhatsApp chats that were opened by some neighborhood residents of Mexico City.

However, when tests were carried out on some users, they associated El Mercadito Web more with the sale of basic products, and therefore they did not consider it useful for the type of business or service they offered. As a proposal for the future, another version of El Mercadito Web could be considered that would allow for a greater offer of products and even services, so that it not only works as a sales channel, but also with a directory of consultation for citizens of a certain neighborhood of the Mexico City, this would also imply a name change.

Another concern expressed by users was that of remote delivery, since some do not have the option to hire staff to make deliveries and the radius or quadrant that El Mercadito Web would cover was not clear, so we think that a redesign in the name of the application by neighborhood where it is implemented would have results in making it attractive to local merchants in a specific area.

Finally, we consider that doing more tests on users, without restrictions such as doing it remotely, and with older people who may not even use their mobile phone, would make us obtain more observations and with it a better redesign of El Mercadito Web, in a way make it as functional as possible, inclusive for those who are not experts in the use of technologies or do not have the economic resources to consume the Internet. And perhaps it can compete against the multiple proposals and platforms that have emerged emergently during the pandemic.

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