DEVELOPMENT OF A VIRTUAL STORE USING WORDPRESS AND WOOCOMMERCE FOR A MARKETING COMPANY. CASE: PROFESSIONAL NURSING SERVICES

DESENVOLVIMENTO DE UMA LOJA VIRTUAL USANDO WORDPRESS E WOOCOMMERCE PARA UMA EMPRESA DE MARKETING. CASO: SERVIÇOS PROFISSIONAIS DE ENFERMAGEM

DESARROLLO DE UNA TIENDA VIRTUAL CON WORDPRESS Y WOOCOMMERCE PARA UNA EMPRESA DE MARKETING. CASO: SERVICIOS PROFESIONALES DE ENFERMERÍA

Freddy Alberto Morcillo Presenda[1], Arturo Corona Ferreira[2], José Trinidad Acosta de la Cruz[3], José Manuel Hernández Rodríguez[4], Manuel Villanueva Reyna[5], Lia Gustavo and Adolfo Chapus Castañeda.

ABSTRACT

Adapting to technology is becoming more and more common and important, since nowadays using the Internet is usually an indispensable tool to carry out any activity. Nowadays the Internet is one of the most effective means to offer services to clients, so a web application will be developed using WordPress and WooCommerce to facilitate the hiring of professional services in nursing.

Keywords: WordPress. WooCommerce. Virtual Store. The Social Business Model Canvas.

RESUMO

A adaptação à tecnologia está se tornando cada vez mais comum e importante, visto que, hoje em dia, o uso da internet costuma ser uma ferramenta indispensável para a realização de qualquer atividade. Atualmente, a internet é um dos meios mais eficazes para oferecer serviços aos clientes, por isso, será desenvolvida uma aplicação web utilizando WordPress e WooCommerce para facilitar a contratação de serviços profissionais na área de enfermagem.

Palavras-chave: WordPress. WooCommerce. Loja Virtual. Canvas do Modelo de Negócios Sociais.

RESUMEN

Adaptarse a la tecnología es cada vez más común e importante, ya que hoy en día el uso de internet suele ser una herramienta indispensable para realizar cualquier actividad. Internet es uno de los medios más eficaces para ofrecer servicios a los clientes, por lo que

[1]Dr.
[2]Dr.
[3]Dr.
[4]Dr.
[5]Dr.

se desarrollará una aplicación web con WordPress y WooCommerce para facilitar la contratación de servicios profesionales en enfermería.

Palabras clave: WordPress. WooCommerce. Tienda virtual. Canvas del modelo de negocio social.

INTRODUCTION

The demand for medical services can be interpreted as the manifestation that individuals make of their health needs. Given the great growth of the population, there is a greater demand for health services and public institutions lack the staff to cover the number of individuals requesting nursing services or people may find it difficult to access these services due to the lack of time to make a medical appointment.

Technological advances and the growing evolution of society towards Internet services are becoming more and more common, so for some professionals in the nursing area it is a good strategy to publicize the services they offer through a website and even social networks

The proposal presented in this project aims to be a link between the market (people with nursing service needs) and nursing professionals, in such a way that it makes it easier for people to find professionals to meet their need in terms of patient care and for nursing professionals to offer and sell their services.

THEORETICAL FRAMEWORK

WordPressCurrently, WordPress is one of the most used CMS (Content Management System) by companies, entrepreneurs and people who want to have a site where they can share the content they generate. This Content Management System allows any user to manage their website in a quick and easy way, whether or not they have development or programming knowledge. Another important feature of WordPress is themes, i.e., the templates that the platform uses to modify the appearance and layout of the site. These can be paid or free (Ana Muñoz, 2017).

Plugin

It is an application (or computer program) that is related to another to add a new and usually very specific function to it. This additional application is executed by the main application and they interact through the application programming interface and is a simple way to increase the options and functionalities that we have and also to do it in an extremely simple way.

It is often used, for example, for medium-complexity websites that are not a blog, such as corporate websites or e-commerce sites. (Wpavazado, 2014).

WooCommerce

WooCommerce is a free e-Commerce plugin that allows you to sell anything, elegantly. Built to integrate seamlessly with WordPress, WooCommerce is the world's favorite eCommerce solution and offers full control to both store owners and developers.

With WooCommerce you can sell both physical and digital products in any shape or size, offer product variations, multiple configurations, and instant downloads to buyers, and you can even sell affiliate products from online marketplaces. (WordPress, 2017).

The main functionalities are:

- Management of different payment methods: cash on delivery, PayPal, bank transfer, check, card payment gateway.
- Configuration of shipping costs, which can be free, single price or according to weight, package size or shipping country.
- Tax settings, can be included in the price or calculated separately, you can impose different taxes per product.
- It allows you to create discount coupons, with a fixed amount or a percentage, for specific products or categories of products.
- It allows you to add different attributes and variations to the characteristics of the product (color, sizes, etc.).
- You can sell physical or digital products.
- It offers inventory reports that report the available stock of products for sale.
- It offers other reports on the status of orders, sales, and customers.

Web server

A Web server is a program that uses the Hypertext Transfer Protocol (HTTP) to serve the files that make up Web pages to users, in response to their requests, which are forwarded by HTTP clients on their computers. Dedicated computers and devices can also be referred to as Web servers (Sierra, 2013).

Hosting

000webhost is a hosting service with WordPress support, which will be used for the implementation of the web application. The 00webhost service offers the following features:

- 10GB bandwidth.
- 1GB of disk space.
- Free domain hosting.
- Cpanel hosting administrative panel for free.
- Auto installer (WordPress).

Foundations and Frontiers: The Dynamics of Multidisciplinary Sciences

Development of a virtual store using wordpress and woocommerce for a marketing company. Case: professional nursing services

- Support for PHP and MySQL database.

Gpl

The GNU General Public License is a license created by the Free Software Foundation in 1989 and is the most widely used license in the world of software. to users.

WordPress License

All software has a license, WordPress was born out of the desire to have an elegant and well-designed publishing system, created in PHP and MySQL and under the GPL license. Which means that, legally, there are certain things that are allowed (and prohibited) to do with WordPress software and source code. The GPL license means that the program is free as expression.

MySQL License

MySQL is a relational database management system developed under a dual GPL license and is considered the most popular Open Source database, in general together with Oracle and Microsoft MySQL, especially for development environments of this Web and the possibility of integrating this manager into a proprietary software.

DESCRIPTION OF THE METHOD

The methodology developed by Alexander Osterwalder is consolidating itself as a real alternative to add value to business ideas. This objective that should be used by any entrepreneur is not an easy task, however, Osterwalder's model is a simple enough tool to be applied in any scenario: small, medium and large companies, regardless of their business strategy and target audience (Osterwalder & Pigneur, 2011).

Figure. 1. The Social Business Model Canvas. Source: Adapted from Osterwalder, A (2011).

Description of The Social Business Model Canvas business model methodology modules:

Customer segments

The e-business model is oriented to a clearly defined sector, this sector is composed of two customer segments; those that meet the following characteristics:

1. People over 18 years of age.
2. They work, study and perform household chores.
3. Nursing professionals.
4. Have access to computer, internet, and digital mail at work, home, or school.
5. They must know how to use computer equipment, know how to access the Internet and an e-mail account.

The relationship will be strengthened to the extent that the value proposition satisfies the customer's needs; Other elements that will generate and strengthen the relationship are traditional and technological elements.

Macroeconomic environment

The geographical objective for the implementation will be in the city of Villahermosa, Tabasco. One of the problems that would currently affect the web application would be the notoriety of the web application, as well as in the future new applications offering similar services.

Competitors.

Since public or private health institutions offer nursing services are a very important competitor in our space, as well as nurses who offer their services personally, so the

popularity of our web application will be affected by those competitors, as the web application becomes known, the technological innovation it offers will be reflected, since the customer will notice the convenience of the service since it will be at home.

Value proposition

The offer is made up of one or more value propositions that are aimed at the customer segment, since the market segment is unique in this case, the value proposition is also unique.

Elements of value from the customer's point of view:

- The customer needs to satisfy the need to acquire services from a web platform in a comfortable and simple way, reducing physical assistance to hospitals.
- The customer will be able to create a list in their shopping cart in which they can modify and delete the services they want or no longer want to buy.
- The customer will receive the electronic purchase order and receive the order at the address you assign on the billing form.
- The e-business model allows this activity to operate 24 hours a day and from practically anywhere.
- The access channel to the services will be constituted by the Internet.

Product description and features:

- The service to be offered is an e-business model that must be implemented through software.
- The web application will be made available to people, where they will be able to choose the services offered by the nursing professional.
- The services will be presented in a pleasant and easy to identify way, the page will have a pleasant design.
- As the customer adds products to their shopping cart, the total of their purchase will be shown and thus they will be able to analyze at the end of the tour of the page their total to pay and if they want to remove or add more products.
- The delivery of the products will be at the time of purchase, free delivery and to the address of the customer's choice.

Sales force:

- Because the acquisition of the products will be done via the Internet, there is no sales force, except for the presentation of the electronic business model to the customer to achieve its use.

Access channel to the page:

- The access channel to the page will be constituted by the Internet.
  Elements of value from the point of view of the web application:

- Strategic objective of the market: To offer nursing services through the implementation of this business model.

- Business strategy: Offer nursing professional services at home.

Associations.

It is necessary to search for nursing professionals who are interested in trying this web application so that they can publish their services.

Sales and marketing.

The communication and distribution channels are the bridge through which the web application delivers the value proposition of the offer to the customer (Figure III.17).

The communication channels will be made up of the following elements:

- Internet: It is proposed to use advertising tools available on the internet, including social networks such as Facebook, Instagram and Twitter, email and in particular the online store.

- Telephone: This communication channel will be an instrument through which the company will be able to know the customer's opinion on the value proposition, while the customer will also have an instrument to express complaints about the service.

Activities and resources

The key activities of the e-business model will be aimed at creating the infrastructure for the value proposition of the offer to reach the customer (Figure III.18).

- Implementation of the electronic business model through an electronic page hosted on a web server.

- Basic training for the company's staff to interact with the website.

- Collection of the cost of the order through one of the several mechanisms, mentioned above.

- Careful configuration of the order prepared by the customer.

- Delivery of the order, either on site or at home.

- Administration of the process.

Cost Structure

Distribution expenses can become a considerable cost position, as well as the cost of personnel for the selection of nurses, as well as the system administrator; however, they represent a minimum egress for the web application. Another expense is that of the technology required for the development of the web application.

Revenue streams

The way in which the company will generate resources will be defined by the revenue generated by the application of the value proposition among customers, which will generate a source of revenue (Figure III.20).

The source of income can be obtained in different ways of payment, the ones that the company will handle are:

- Payment with PayPal.
- Payment by credit or debit card.

Prototype construction

The construction of the software prototype was carried out in the following stages.

1.-The virtual store was developed on the WordPress platform, using the PHP programming language and CSS3 code.

2.-The WooCommerce plugin allowed us to develop the catalogs, invoicing and payment methods.

3.-XAMPP technology was used for the development of the databases.

Quick Plan

The rapid plan phase made it possible to delimit, according to the elements developed in the electronic business model through the value proposition, the minimum criteria that the software prototype must meet. At this point, the general characteristics of the prototype design were defined so that the objective of reaching the market segment, delivering the value proposition and generating the relationship with the customer is met.

As tools for the model and design, those provided by UML were taken, those necessary for the conceptual design of the software prototype were used, which are the following:

Use Case Diagrams.

Use Case Scenarios.

These tools made it possible to understand the relationship between each of the elements of the software prototype. Below is the Navigation Diagram, the Use Case Diagrams, as well as their corresponding Use Case Scenario.

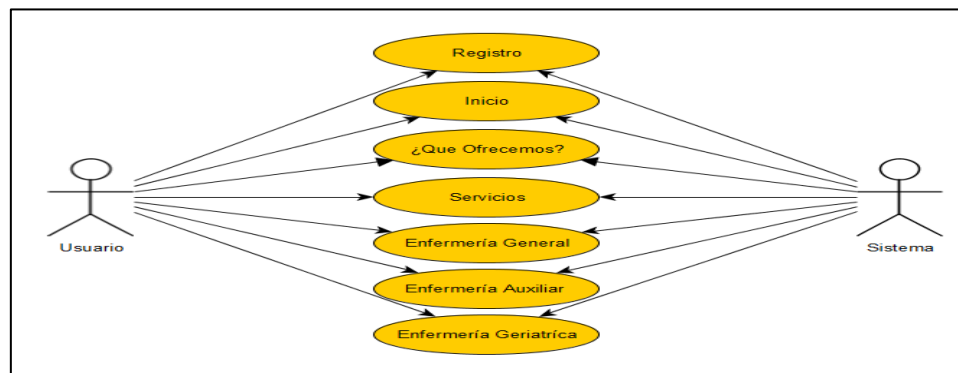**Fig. 1.** Navigation diagram of the website.

The Navigation Diagram shows us how to access each of the modules that make up the website. The structure of the website is very important as it allows users to clearly and accurately visualize the content that makes up the website. The main menu of the Virtual Store is displayed.
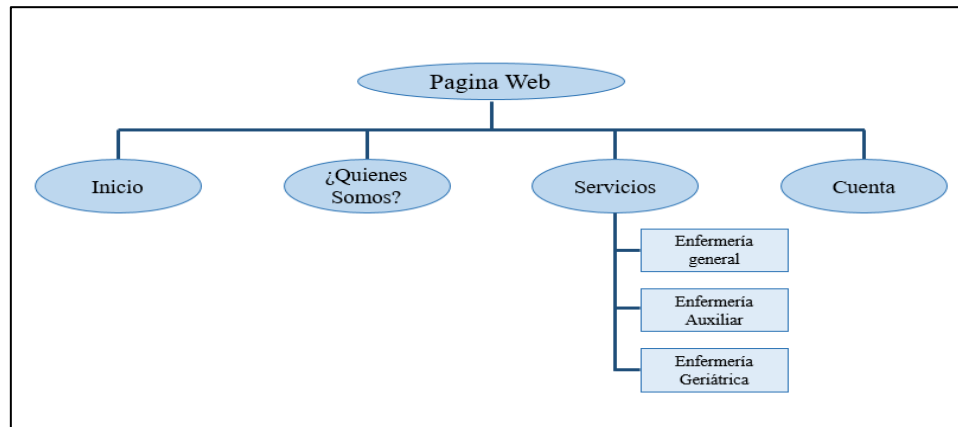
Use Cases

The Use Case of the web application is reflected in the following illustration, as well as its respective Use Case Scenario, showing the way in which the main menu of the Professional Nursing Services web application is displayed. In the Services option, you can interact with the service catalogs on the page.

Fig. 2. The Use Case Scenario displays the description necessary for the user to interact with the web application's catalogs.

Use Case Name	Main Menu	ID:	Professional Nursing Services-01
Area:	Web application. Professional nursing services.		
Actor:	User		
Description:	It allows the user access to the menu where they can view and interact with the Web application and each of its tabs.		
Main Menu Modules	Description of the modules.		
Registration	A.- It allows the user to register in the web application to later interact with it.		
Beginning	B.- It will show the new features that are added to the web application.		
What do we offer?	C.- Description of all the services that the user can acquire.		
General Nursing	D.- This catalogue shows the services that a general nursing professional offers. 1. Wound healing. 2. Application of Injections. 3. Application of serum.		
Auxiliary Nursing	E.- This catalog shows the services that an auxiliary nursing professional offers. 1. Accompany medical consultations. 2. Taking vital signs. 3. Healing of minor wounds and bandages.		
Geriatric Nursing	F.-This catalog shows the services that a professional in geriatric nursing offers. 1. Morning cleaning. 2. Change of clothes. 3. Administration of medications.		
Assumptions:			
The user has a computer, with Internet access and a Web browser with good configuration.			

The following use case shows the process of purchasing the services of the "General Nursing" catalog
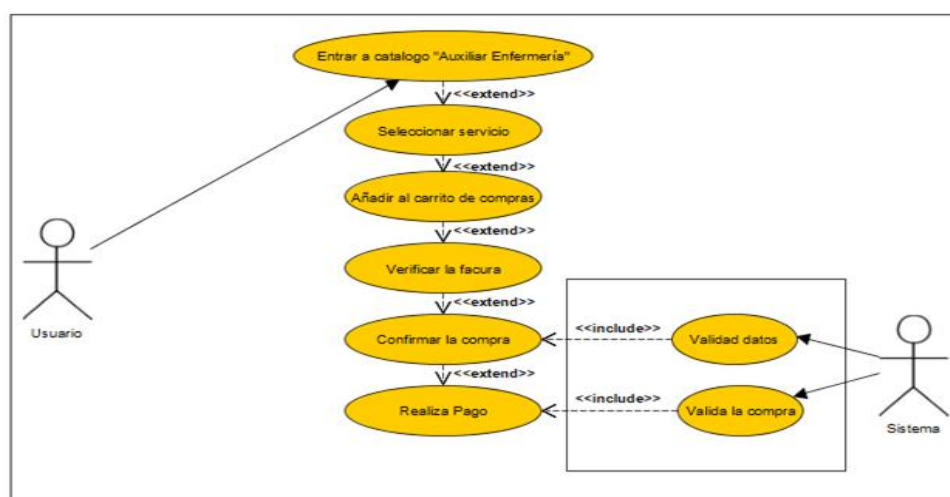
Fig. 3. Use Case General Nursing
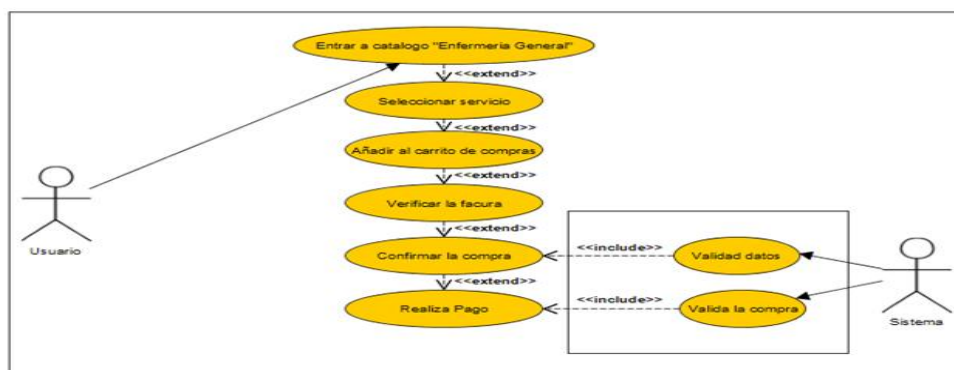
The following Use Case Scenario shows the process of selecting the service and the elements to make the purchase, in the General Nursing catalog.

Table 2. Use Case Scenario General Nursing

Use case name:	General Nursing		ID	Professional Nursing Services-02
Area:	Web application. Professional Nursing Services.			
Actor(s):	User & System			
Description:	It shows the process of selecting the products in this catalog, as well as the process of purchasing and providing the service.			
Steps performed				
	1. The user selects the General Nursing catalog			
	2. The user selects the service from the catalog			
	3. The user checks the service information and the cost.			
	3.1.- The system validates the selected services			
	4. He confirms the purchase			
	4.1.- The system validates the purchase			
	4.2.- The system initiates the process of notifying the nursing professional			
5.- The user receives the service from a nursing professional.				
Preconditions:	The user is in the Professional Nursing Services web application.			
Priority:	Loud			

The following use case shows the process of purchasing the services of the "Nursing Assistant" catalog.
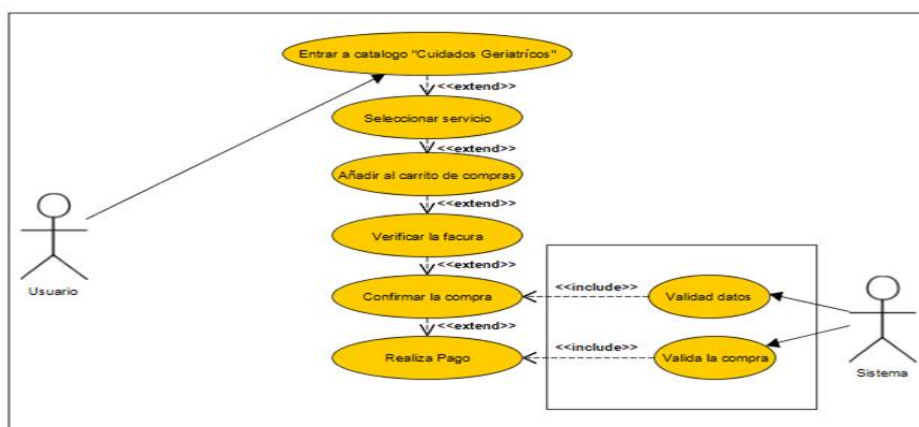
Fig. 4. Use Case Nursing Auxiliary Catalog

The following Use Case Scenario shows the process of selecting the service and the elements to make the purchase, in the Nursing Auxiliary catalog.

Table 3. Nursing Auxiliary Use Case Scenario.

Use case name:	Nursing Assistant	ID	Professional Nursing Services-03
Area:	Web application. Professional Nursing Services.		
Actor(s):	User & System		
Description:	It shows the process of selecting the products in this catalog, as well as the process of purchasing and providing the service.		
Steps performed			
	1. The user selects the Nursing Assistant catalog		
	2. The user selects the service from the catalog		
	3. The user checks the service information and the cost.		
	3.1.- The system validates the selected services		
	4. He confirms the purchase		
	4.1.- The system validates the purchase		
	4.2.- The system initiates the process of notifying the nursing professional		
	5.- The user receives the service from a nursing professional.		
Preconditions:	The user is in the Professional Nursing Services web application.		
Priority:	Loud		

The following use case shows the process of purchasing the services in the "Geriatric Care" catalog.

Fig. 5. Geriatric Care Use Case

The following Use Case Scenario shows the process of selecting the service and the elements to make the purchase, in the Geriatric Care catalog.

Table 4. Geriatric Care Use Case Scenario

Use case name:	Geriatric Care	ID	Professional Nursing Services-03
Area:	Web application. Professional Nursing Services.		
Actor(s):	User & System		

Foundations and Frontiers: The Dynamics of Multidisciplinary Sciences

Development of a virtual store using wordpress and woocommerce for a marketing company. Case: professional nursing services

Description:	It shows the process of selecting the products in this catalog, as well as the process of purchasing and providing the service.
Steps performed	
1. The user selects the Geriatric Care catalog	
2. The user selects the service from the catalog	
3. The user checks the service information and the cost.	
	3.1.- The system validates the selected services
4. He confirms the purchase	
	4.1.- The system validates the purchase
	4.2.- The system initiates the process of notifying the nursing professional
5.- The user receives the service from a nursing professional.	
Preconditions:	The user is in the Professional Nursing Services web application.
Priority:	Loud

RESULTS

The application of the prototype construction model and rapid design allows us to design the graphical user interfaces, which visually present the concepts contained in the Illustration of the rapid plan.

The screens of the web application inserted below are part of the prototype used that demonstrates the use in a practical way. The following screenshots demonstrate how the main menu is made up and the processes that are carried out during an electronic purchase, as well as the existing payment methods in the prototype.

The main screen of the Professional Nursing Services web application shows the menu in which the user can access any of them. As the beginning of the purchase operations in which users will be able to choose the catalog in which they want to buy, select and add different products from different catalogs to their shopping cart.

Web Application Interfaces:

Figure 6. Main screen of the Professional Nursing Services application.

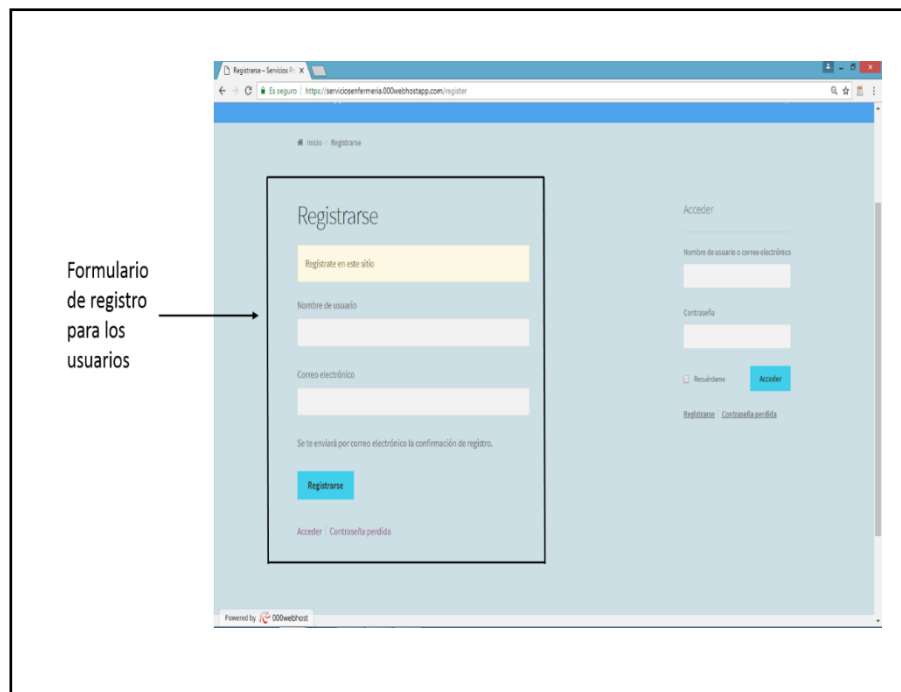**Figure 7.** Screen where the user can register to later purchase services.

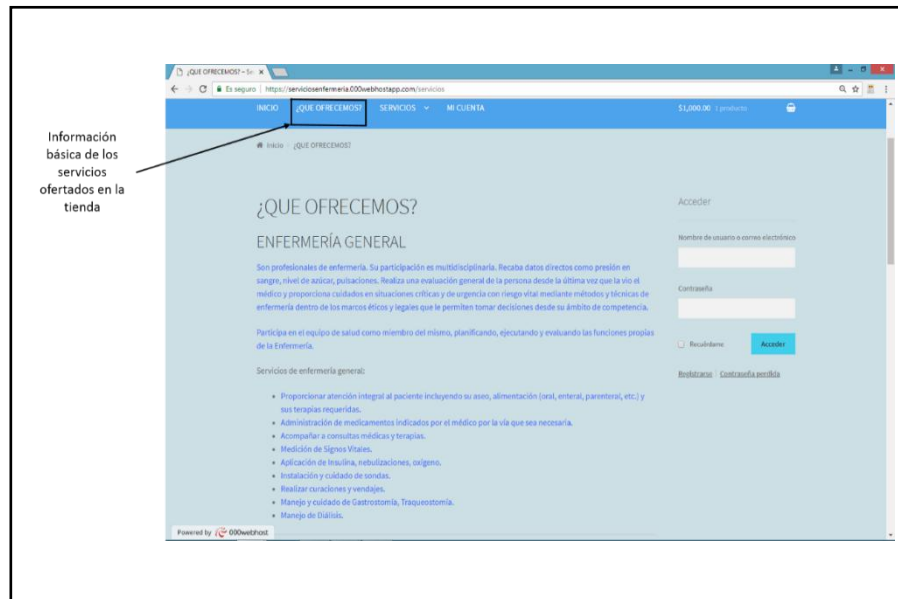**Figure 8.** Screen showing the services offered in the store

Figure 9. Displays services in the General Nursing category.
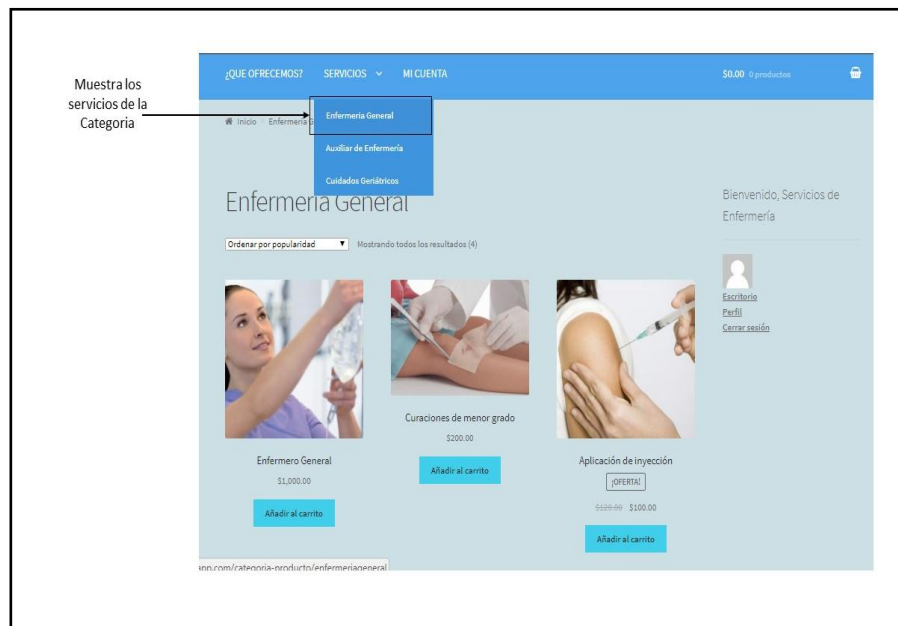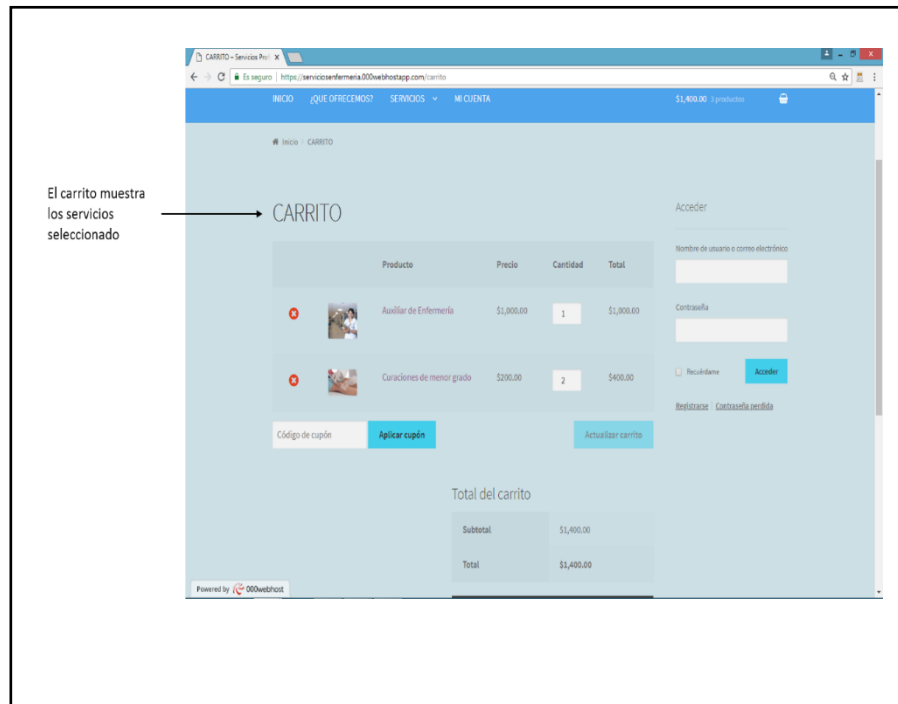
Figure 10. Screen where the user selects and verifies the amount of the services they will purchase.

CONCLUSIONS

The development of web applications helps to offer goods over the internet and makes it easier for customers to acquire products and services that are necessary and indispensable. We can talk about multiple advantages of a web application such as time savings, compatibility with any device, portability since it can be accessed from anywhere, as well as simplifying actions and processes with which the user interacts. The project is currently in its final phase of development, as well as the implementation of new ideas to improve the experience in the application.

REFERENCES

1.   DGI. (2017). Comercio electrónico. Procuraduría Federal del Consumidor. https://www.profeco.gob.mx/internacionales/com_elec.asp

2.   Headwayscommx. (2017). Glosario mercadotecnia: Tienda virtual. Headways. https://www.headways.com.mx/glosario-mercadotecnia/palabra/tienda-virtual/Payu

3.   Joyanes Aguilar, L., & Zahonero Martínez, I. (2011). Programación en Java 6: Algoritmos, programación orientada a objetos e interfaz gráfica de usuarios. McGraw-Hill.

4.   Muñoz de Frutos, A. (2017, November 13). ¿Qué es WordPress? ComputerHoy. http://computerhoy.com/noticias/internet/que-es-wordpress-62170

5.   Osterwalder, A., & Pigneur, Y. (2011). Generación de modelos de negocio. Centro Libros PAPF.

6.   Reyes, E. (2009). Fundamentos de enfermería: Ciencia, metodología y tecnología. El Manual Moderno.

7.   Sierra, M. (2013). ¿Qué es un servidor y cuáles son los principales tipos de servidores (proxy, DNS, web, FTP, SMTP, etc.)? Aprender a Programar. http://www.aprenderaprogramar.com/index.php?option=com_attachments&task=download&id=487

8.   Silberschatz, A., Korth, H. F., & Sudarshan, S. (2006). Fundamentos de bases de datos (5th ed.). McGraw-Hill.

9.   Wordpressorg. (2017). Plugins: WooCommerce. WordPress. https://es-mx.wordpress.org/plugins/woocommerce/

10.   Wordpressorg. (2017). WordPress. WordPress. https://es.wordpress.org/

11.   Wpavanzadocom. (2014). ¿Qué es un plugin? WP Avanzado. http://wpavanzado.com/que-es-un-plugin/