Design of a Web System for the Sales Processes in a Microenterprise in Peru

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Received: 14 December 2019 Accepted: 4 January 2020 Published: 15 January 2020

Abstract

The present work is a design of a sales website with which we will observe everything it contains and we can have a good control of all sales, because today microenterprises still do it manually, and so much time is wasted and becomes very tedious. For this, the web system was implemented with the SCRUM methodology which helps us in a more agile way and we will divide it into its 5 phases with which it has and by the application was developed the phases already mentioned and was also used the program Balsamiq Mockups for the design of the prototypes that he is going to have the web system to store all the necessary information requested by the client as a final product.

Index terms—sales process, web system, scrum.

1 Introduction

The present work is a design of a sales website with which we will observe everything it contains and we can have a good control of all sales, because today microenterprises still do it manually, and so much time is wasted and becomes very tedious. For this, the web system was implemented with the SCRUM methodology which helps us in a more agile way and we will divide it into its 5 phases with which it has and by the application was developed the phases already mentioned and was also used the program Balsamiq Mockups for the design of the prototypes that he is going to have the web system to store all the necessary information requested by the client as a final product.

The objective of this work is to implement a web system with which we can have a control of all sales, products and customers, so that we may have an excellent information administration and improve customer service.

In this work is organized by stages, II stage we have the methodology that is going to be developed for research, III stage we have the study case which is related to the methodology, IV stage we will see the results, V etapa the conclusions of research work.
2 II.

3 Methodology

This investigation will be carried out using the following methodology:

a) PHP

PHP or hypertext processor is a server-side scripting language designed for the web. PHP will be explained on the web server and will process html code or other output that visitors can see. PHP is an open source project that allows everyone to have access to the source code at no charge, it also has many integrated functions to perform many useful tasks related to the web. [8].

b) Balsamiq Mockups

After mentioning the methodology with which the project will be done, we will know the tool Balsamiq Mockups which will help us to create views of the interface that shows the system, such as buttons, links, tables, and so on. With which it will be possible to design a model of the ones we want to implement in the finished system. [9].

c) SCRUM

Scrum proposes a personalized image to work on various projects that have a variety of conditions and having a usefulness as the selection of sprints and there is no method to follow. Being considerably scrum used for some essential components that can give an edge to other methods [10].

6 i. Producto Backlog

Here we begin with the list of requirements of functionality that offers us the client with which he wants it to be his final product.

7 ii. Sprint Backlog

We will see the list of requirements of the backlog product, how we will work with the team to achieve the objectives and that will become an increment in functionality.

8 iii. Sprint Planning Meeting

Tells us about the planning of the Sprint, are prioritized more than everything the inspection and the adaptation of the advances more than everything of the tasks of the product backlog.

iv. Ejecución de Sprint We will have a review of the increment (Sprint) as it will have a duration of 2 to 4 weeks as a unique delivery date.

9 v. Inspección e Interacción

It is the presentation of the sprint already finished with the requirements that have been indicated from the beginning by the client.

10 Application a) Application Architecture

In this architecture we will talk about PHP where shown in the image will generate an html document, then send the web system to the browser and where it will generate the more than all the request of the web system by the web server as shown in Fig. [4]. The design of the web system was developed with the application Balsamiq Mockups, which will be implemented in microenterprises in Perú to have more than all a good control of their sales, products and customer and thus have a good administration of the data.

11 i. Producto Backlog

? As an administrator I need to register in order to enter the system. ? As a user I need the system to approve my data in order to enter the system. ? As a seller I need to register a customer to make the sale. ? As a seller I need to register the categories for each type of products. ? As a seller I need to register a product to make the sale. ? As a seller I need to register the customer’s order to make the sale. ? As an administrator I need to produce a report to keep track of registered clients.

? As an administrator I need to produce a report to have a control of the registered products. ? As an administrator I need to produce a report to have a control of sales.

ii. Sprint Backlog a. Increment 1: User Registration In this increment the user records that can be administrator or salesperson will be presented (Fig. ??).

12 b. Increment 2: Record of the sale

In this increment we will see the registration of customers, categories, products, register orders and register the sale itself (Fig. ??, Fig. ?? and Fig. ??). c. Increment 3: Report Management In this increment we will have
the verification of the sale and allows the administrator to generate reports on customers, products and the sale (Fig. ??).

13 iii. Sprint Planning Meeting
In this phase we will see the planning of the sprints and how long each has as shown in Fig. ?? . As last phase we have the sprints already finished with the requirements they gave us, where we’ll see more than the entire system fully developed.

IV.

14 Results and Discussion
15 a) In the Application
The design of prototypes of the sales web system for the micro-companies in Puente Piedra was completed, ending with the requirements already requested and having a good control of sales and thus only having the design of the system to be implemented later.

i. Comparison
Compared to a web-based platform for customers and designers for website prototypes [11], what we can observe is that we have developed the pappers with the software Balsamiq Mockups for the prototypes our work, another comparison is that this paper has created a process to create prototype and has communication from client to server and get customer feedback, in comparison with our work has also developed an architecture for communication of the client and server with PHP language.

b) In the Methodology
i. Ventaja
One of the advantages with the Scrum methodology is that the development team meets every day approximately 15 minutes to complete some elements of the sprint backlog to be a review of the project which will be presented [12].

ii. Desventaja
One of the disadvantages would be that if you focus on large projects with several members, the results would not be as good.

iii. Diferencias
In the differences exist is that the scrum methodology is for more agile projects on the other hand if we use the UML methodology it is for more extensive projects and in addition they are too heavy as the implementation of the sales system of the monitoring based on mobile devices in Semi Tani Shop. [13].

V.

16 Conclusiones
In this way the implementation of the sales web system will help with the improvement of the sales process, so there will be no problems with calculations such as for preparing a ticket, or control of products.

The application was used with the program Balsamiq Mockup which helped with the design of the interfaces for the design of a website for a microenterprise.

La Metodología Scrum nos ayuda de una manera más ágil ya que cuentas con 5 fases, y que se ejecuta en ciclos temporales, ya que los Sprint tienen una duración entre 2 a 4 semanas como una fecha límite de entrega del proyecto.

In future investigations an artificial intelligence system could be added with a chatbot so that customers can ask for information about each specific product they are looking for in the store and the prices for each one.
Figure 1: Fig. 3 Fig. 3:
Figure 2: Fig. 4:

<table>
<thead>
<tr>
<th>Nombre</th>
<th>Duración</th>
<th>Inicio</th>
<th>Terminado</th>
</tr>
</thead>
<tbody>
<tr>
<td>SISTEMA DE VENTA EN LA MICROEMPRESAS</td>
<td>45 days</td>
<td>03/09/19 08:00 AM</td>
<td>08/11/19 05:00 PM</td>
</tr>
<tr>
<td>1. Registro Usuario</td>
<td>10 days</td>
<td>10/09/19 08:00 AM</td>
<td>23/09/19 05:00 PM</td>
</tr>
<tr>
<td>Modulo de Usuarios</td>
<td>10 days</td>
<td>10/09/19 08:00 AM</td>
<td>23/09/19 05:00 PM</td>
</tr>
<tr>
<td>2. Registro de la Venta</td>
<td>20 days</td>
<td>23/09/19 08:00 AM</td>
<td>18/10/19 05:00 PM</td>
</tr>
<tr>
<td>Modulo de Clientes</td>
<td>5 days</td>
<td>23/09/19 08:00 AM</td>
<td>27/09/19 05:00 PM</td>
</tr>
<tr>
<td>Modulo de categorias</td>
<td>5 days</td>
<td>28/09/19 08:00 AM</td>
<td>04/10/19 05:00 PM</td>
</tr>
<tr>
<td>Modulo de Productos</td>
<td>5 days</td>
<td>04/10/19 08:00 AM</td>
<td>10/10/19 05:00 PM</td>
</tr>
<tr>
<td>Modulo de la Venta</td>
<td>5 days</td>
<td>10/10/19 08:00 AM</td>
<td>16/10/19 05:00 PM</td>
</tr>
<tr>
<td>3. Gesto de Reportes</td>
<td>15 days</td>
<td>15/10/19 08:00 AM</td>
<td>05/11/19 05:00 PM</td>
</tr>
<tr>
<td>Reporte de Clientes</td>
<td>3 days</td>
<td>15/10/19 08:00 AM</td>
<td>18/10/19 05:00 PM</td>
</tr>
<tr>
<td>Reporte de Productos</td>
<td>3 days</td>
<td>18/10/19 08:00 AM</td>
<td>22/10/19 05:00 PM</td>
</tr>
<tr>
<td>Reporte de los pedidos</td>
<td>4 days</td>
<td>22/10/19 08:00 AM</td>
<td>25/10/19 05:00 PM</td>
</tr>
<tr>
<td>Reporte de la Venta</td>
<td>5 days</td>
<td>25/10/19 08:00 AM</td>
<td>31/10/19 05:00 PM</td>
</tr>
</tbody>
</table>

Figure 3: Fig. 5 :Fig. 7 :Fig. 9 :Fig. 10 :
16 CONCLUSIONES

Figure 4:

Figure 5:
Figure 6:

Figure 7:


Varas and Huayanca Quispe Desarrollo e implementación de un sistema de información para mejorar los procesos de compras y ventas en la empresa HUMAJU, J , Huaman Varas , C Huayanca Quispe . Lima.


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