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SISTEMA DE GESTIÓN DE PROCESOS DE PRODUCCIÓN PARA LA EMPRESA DIKAPSA

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System of Management of Production Processes for the company DIKAPSA

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Summary. *This article presents the results of developing the Process Management System for DIKAPSA Production Company , the idea of it stems from the need to automate traditional production methods.*

Today it requires a system that automates processes work orders as preliminary stage will be designed only for two production lines such as the billboards and vouchers for its high demand in sales for efficient performance in manufacturing lines.

The company design and printing "Dikapsa " is a private company that in recent years has grown significantly due to the demand for such products to provide more jobs and delivering quality work without delay , which is why it takes so immediate implementation of the proposed system in this project.

Keywords

Systems, processes, printing, production, billboards, vouchers.

Resumen. *Este artículo presenta los resultados de desarrollar el Sistema de Gestión de Procesos de Producción para la Empresa DIKAPSA, la idea del mismo surge a raíz de la necesidad de automatizar los métodos tradicionales de producción.*

En la actualidad se requiere de un sistema que automatice los procesos de órdenes de trabajo como etapa preliminar se diseñará únicamente para dos líneas de producción como son las gigantografías y comprobantes, por su alta demanda en ventas para obtener un rendimiento eficiente en las líneas de manufactura.

La empresa de diseño e impresión "Dikapsa" es una empresa privada que en los últimos años ha ido creciendo notablemente debido a la demanda de dichos productos brindando más fuentes de trabajo y entregando trabajos de calidad sin demoras, es por ello que se requiere de manera inmediata la implementación del sistema propuesto en este proyecto.

Palabras Claves

Sistemas, Procesos, Impresión, Producción, Gigantografías, Comprobantes.

1. Introduction

The rapid evolution of technology in recent times has invaded everyone, increasing user requirements and competition of companies to meet these demands, the information management and streamlining of processes has become a factor essential for the growth of businesses; therefore choosing and using good tools for developing software that will present a system to ensure quality service to customers and thus increase the possibility of future ensure a successful position and provide quality services nationwide.

The tool was built to solve the basic processes of control of the company DIKAPSA, as these processes are all performed manually, causing significant loss of information, delayed responses from customer service delivery errors that can cause customer loss and business.

Throughout this thesis we will analyze all these factors to make a design that meets customer needs and company workers.

As such, the need to implement SISTEMA DE GESTIÓN DE PROCESOS DE PRODUCCIÓN PARA LA EMPRESA DIKAPSA, especially to provide service to the citizens of Canton Otavalo, in order to ensure service quality printing, safety and confidence in the customer.

2. Materials and Methods

2.1 Procedures Lift

Dikapsa is a graphics company that provides print solutions that meet the needs of its customers, brings 13 years of operations in which it has been able to grow and have a recognized brand. During his career he has had several major changes, it has operated on 5 establishments to be able to acquire their own facilities.

To date a built machinery gradually until we have a plant full production in all areas, 5 computers Apple, 5 computers PC, 1 printer full color (docucolor 12), 1 printer plates, 4 printers B/W, 1 duplicator; in production have 2 monochrome offset, 1 offset Heidelberg Bi-color, 1 plotter print, 2 cutters, 4 small finishing machines among others.

As far as human resources are concerned likewise it has noticed the growth that has taken Dikapsa starting with 2 people up to a team of about 18 people in 4 strategic areas.

It is a company that is currently engaged in providing of service printing and graphic at north of the country, such as design and printing of promotional posters, logos, folders, envelopes, brochures, diaries, calendars, books, magazines, catalogs, billboards solutions signage, invoices, business cards and letterhead, covering a good portion of the market with high-quality printed products, creating value for all its customers through personalized attention and excellent service.

2.2 SCRUM Methodology

By using methodology agile software development SCRUM , are built the system production of processes in the company "Dikapsa" by the main reasons:

Modular system. Characteristics SISTEMA DE GESTION DE PROCESOS DE PRODUCCION PARA LA EMPRESA DIKAPSA allow develop a minimum functional basis and it be increasing the functionality or modifying the behavior or appearance of those already implemented.

Frequent and continuous customer deliveries of finished modules, so you can have basic functionality in minimal time and thereafter increased and continuous improvement of the system.

The system incorporates more functionality than initially identified.

In implementing the project, the order in which you want to receive the completed modules or user stories is altered.

For customers it is difficult to say what the full dimension of the system will be, and their growth can continue over time be suspended or stopped.

2.3 Development Tools

A computer system consists of hardware and software. In hardware, it can be achieved easily and certain specifications depending on the needs clearly defined. As for software, this system will be designed according to the SCRUM methodology that will allow you lift requirements in an orderly manner and using languages Open Source development as Java, Framework JSF as PostgreSQL engine database, Richfaces to speed the views, screens and forms.

2.4 Description of computer system

The system designed and implemented for the company "Dikapsa" has automated processes that allow us to making production orders efficiently and standardized manner including detailed time recording entry and exit of the order at every stage of production reports They are: Sales, design, printing, finishing and delivery.

The implementation of this project was conducted in two processes of production lines with higher demand in the company are: billboards and vouchers"libretines".

The system has the record of customers, vendors, deploying role to play depending on the menus.

You can generate reports best sales, best sellers and other statistics; it has a catalog of all articles or materials made by the company Dikapsa.

With this system the company should no longer perform the manual process, and can monitor the status of pending or completed orders and keep track of the exact location of the production phase in which it is located.

3. Results

Entry System

Enter the browser of your choice by typing the URL provided: http: // localhost: 8080 / SIGPROPED /, as shown in the following figure.
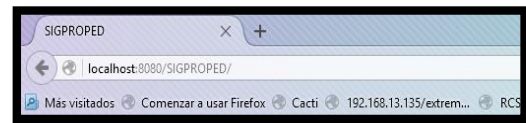

Figure 1: Link of access

Once the previous step correctly connected to the system browser to display the first screen of authentication necessary to access the system requirement.
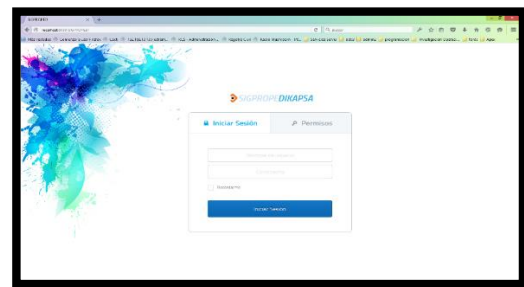

Figure 2: Authentication screen

Login

When you are logged on to the system access according to their role or group you belong within the system, such as: Manager, Salesman, Designer, Production Manager.

If you are logged in as Administrator: you have access to the following menus:

Figure 3: Total Access Manager menu

Modules of the system

SALES

Within this menu you can manage the sales of each production order, customer, detail of production, product finishing, printing details, with their respective advances and total balances. The generating a ticket with the aim of saving paper is important and indispensable for business economics and environmental impact, the company's commitment to the environment.

New Work Order:

To generate a new work order is essential to have all the components that comprise it are recorded as; vendor registration users, customers, products, materials, finishes, finishes types and colors machines because if you do not have this system can not complete the desired transaction.
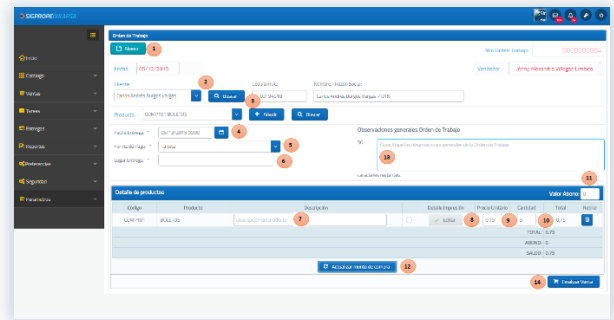
Figure 4: New Order screen work.

a) \<New> (1): Before starting to create a new work order should be initiated by clicking on the button \<New> to reserve a unique work order number. It is also noted that the seller has the field user name as shown in the following figure.
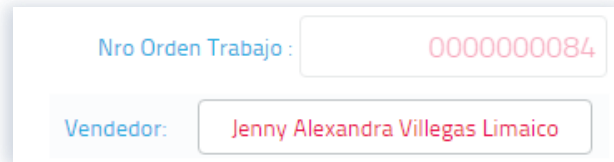

Figure 5: Screen work order number.

b) Customer (2): the system will display a list of all previously enabled customers to generate said work order.
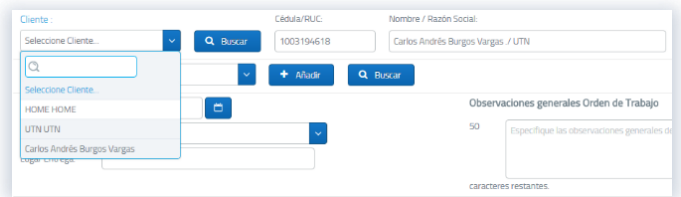

Figure 6: Customer selection screen.

c) Product (3): when you proceed to select an item from the list previously entered in the corresponding menu, the system will list all except what they are disabled in the

corresponding menu. To include one must press the <Add> button, you can also perform a deeper search by pressing the button <Search>.
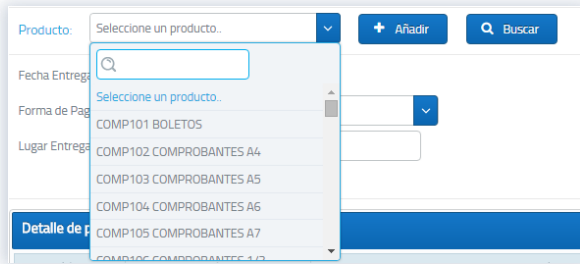

Figure 7: Product selection screen.

d) **Delivery Date (4)** should be noted that the date is estimated to deliver this work order, do not forget that May be the receipt of the order.

e) **Payment Type (5):** the method of payment that will make the customer is important to know for later.

f) **Delivery Location (6):** is important and indispensable to register the place of delivery of the product to the customer.

g) **Comments (13):** for general order can add a comment if needed.

h) **Product Description Details (7)**: it may be included several specifications that need to be listed in the article to be manufactured.

i) **<Edit> (8):** allowed to enter the necessary fields to include detailed product print sizes as are printing, ink, color and finishes.

j) **Unit Price (9):** this individual unit value of the article can be static or as modified during the sales transaction by considerations of varying sizes during his stipulation.

k) **Amount (10):** Total integer of items to be manufactured

l) **Feed value (11):** decimal value that the client anticipates for your product.

m) **<Refresh purchase amount> (12)**: after completing all the required fields and required for the generation of the order, with this button you can calculate totals.

n) **<End Sale> (14):** Pressing this button the system displays a new floating window confirming the essential fields to proceed to save and print the order as shown in the image.

Figure 8: Sales confirmation screen work order.

PREFERENCES

In this menu you can make changes to our user profile within the SIGPROPEDIKAPSA our system.

My profile

The user of the system has a menu to edit the most relevant information even have their profile picture.
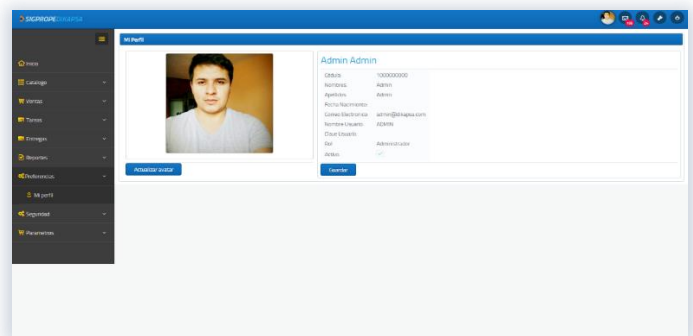

Figure 91: Screen user profile management

4.   Conclusions

It was fulfilled to the satisfaction with the implementation of the management system of production processes to the company "Dikapsa" and putting into production of the two production lines are more in demand as billboards and vouchers or libretines.

We conclude that using this system both its economic, environmental, social and cultural impact is reduced.

The environmental impact study shows that the project has no significant impact in regard to the high consumption of resources such as leaves.

It gave the company Dikapsa user manual detailing step by step how the system works, fulfilling the last requirement.

He surrendered to the person responsible for administering a technical manual for administration and archive.

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About the Athors

Author – Carlos Burgos

He born in Otavalo-Ecuador on April 22, 1989. Son of Hernan Burgos and Nelly Vargas. He completed his primary studies in the School Francisco Javier Endara. In 2007 he earned his degree as Technical Bachelor of Commerce and Administration specialization Informatics,in the "Otavalo" Superior Technical Institute. Currently, he is a graduate of the School of Engineering in Computer Systems Technical University Northern city of Ibarra.

One of the main reasons of this work is to address the need to save time and resources in developing products company Dikapsa.

The development of the thesis with scientific article helped train as a professional and person, knowing one of the most important areas: technology and production processes in large enterprises.

Co-Author – Mauricio Rea

He currently teaches at the School of Engineering in Computer Systems, Faculty of Applied Science at the Technical University of the North.

It is an ethical person, a professional with multidisciplinary approaches, and working with groups of professionals from many areas, which helped me with ideas primary processing and system design production processes.