



National Autonomous University of Mexico  
School of Engineering  
Database's project



# OFFICE SALE PROJECT

GEANT Consulting



**GEÁNT®**

BRIGHT CODE

## About us

GEANT Consulting is a company with focus among software development, planning and design of technological structures, and information technologies projects. We have presence in all Mexico, Canada, USA and Latam.

# **Business line of our client Fernando Arreola**



- Business line needs database system to optimize internal process among management and accounting areas
- Database must be simple, and their use be efficient
- All main requirements be granted by quality and GEANT's compromise





# Our work team



## **Daniel A. Zarco Manzanares (CTO & Project Manager)**

Daniel has work trajectory as leader in organizations and work's team through implementation of best lead techniques. He has worked as Chief Technology Officer in Banking sector and has collaborate with financial projects in different organizations. Now is C.T.O. in GEANT Consulting where his focus is quality, and bring value to clients and companies, with their projects.



## **Gabriela Gaytan Medina (Database Analyst)**

She's one best of database analyst in GEANT Consulting. She has a successful trajectory as computer engineer. She has worked as Developer in hardware projects, database designer, modern digital designer. She has a fundamental vision to work, investigation and implementation. If she don't have knowledge of some concept, first she investigate to continues with implementation.





## Omar Hernandez Francisco (Web Built Officer)

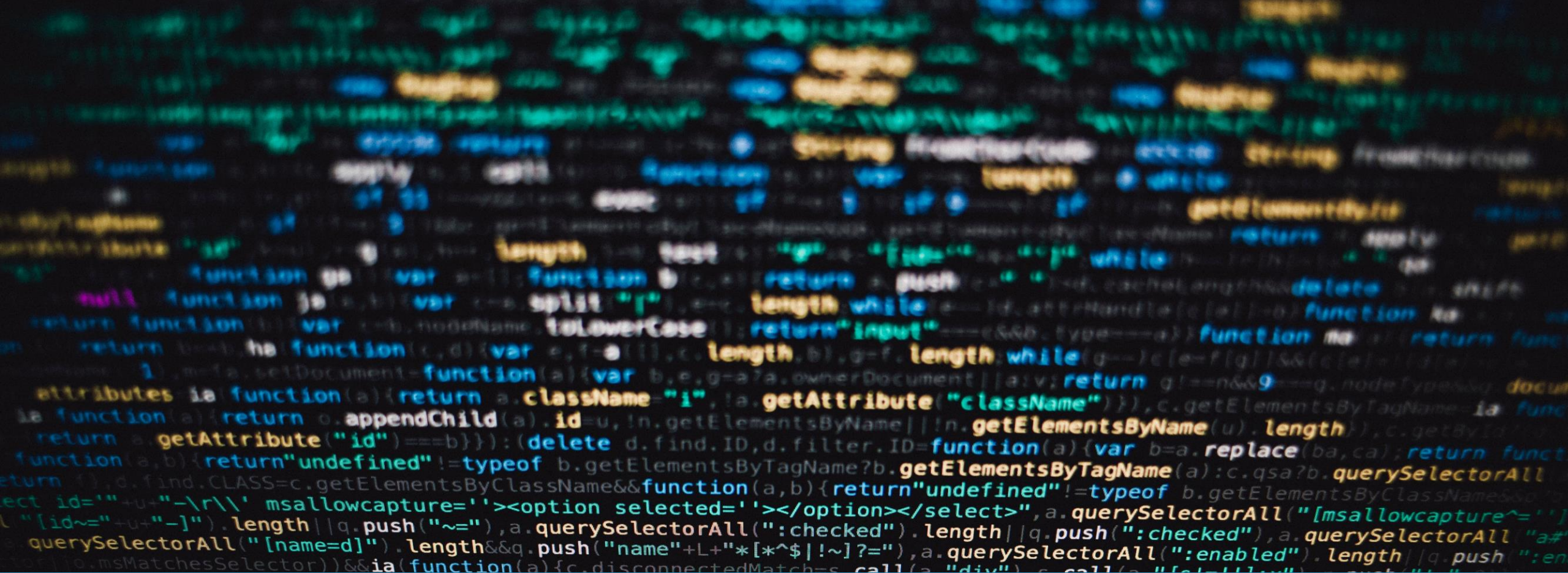
He have two fundamental skills in web built, first have knowledge in front end, optimizing simple web design and second, backend where connections among different devices are very simple. Continuously he investigate new forms to optimize all technologies in GEANT Consulting. Hard focus work is their philosophy in our business.





## **Josué David Rivera Arellano (Development Analyst)**

He have work trajectory through development, his development skills have a variety on software development, database analysis, algorithm design and hardware optimization. Also he have skill in automata design, specially compiler applications.



# Simple is nice

GEANT CONSULTING



# Requirements

Our requirements are:

- When arrive product's bar code, shows the product's utility.
- When registered a sale, must decrease the stock if product's stock is greater than 3 pieces, if product's stock is equal 3 pieces, must return a warning notifying to client that stock is equal 3 pieces or less, and if product's stock is zero, notify an error and stop the sale.
- Get the product's name which stock is less than three pieces.
- Generate view to show necessary information to be equal a bill.
- Create at least one index and justify the reason to create that index in these place.

```
//fires the appear event when appropriate
var check = function() {
  //is the element hidden?
  if (!t.is(':visible')) {
    //it became hidden
    t.appeared = false;
    return;
  }

  //is the element inside the visible window?
  var a = w.scrollLeft();
  var b = w.scrollTop();
  var o = t.offset();
  var x = o.left;
  var y = o.top;

  var ax = settings.accX;
  var ay = settings.accY;
  var th = t.height();
  var wh = w.height();
  var tw = t.width();
  var ww = w.width();

  if (y + th + ay >= b &&
      y <= b + wh + ay &&
      x + tw + ax >= a &&
      x <= a + ww + ax) {

    //trigger the custom event
    if (!t.appeared) t.trigger('appear', settings.data);

  } else {

    //it scrolled out of view
    t.appeared = false;
  }
};

//create a modified fn with some additional logic
var modifiedFn = function() {
  //mark the element as visible
  t.appeared = true;

  //is this supposed to happen only once?
  if (settings.one) {

    //remove the check
    w.unbind('scroll', check);
    var i = $.inArray(check, $.fn.appear.checks);
    if (i >= 0) $.fn.appear.checks.splice(i, 1);
  }

  //trigger the original fn
  fn.apply(this, arguments);

  //bind the modified fn to the element
  //if (settings.one) t.one('appear', settings.data, modifiedFn);
};
```







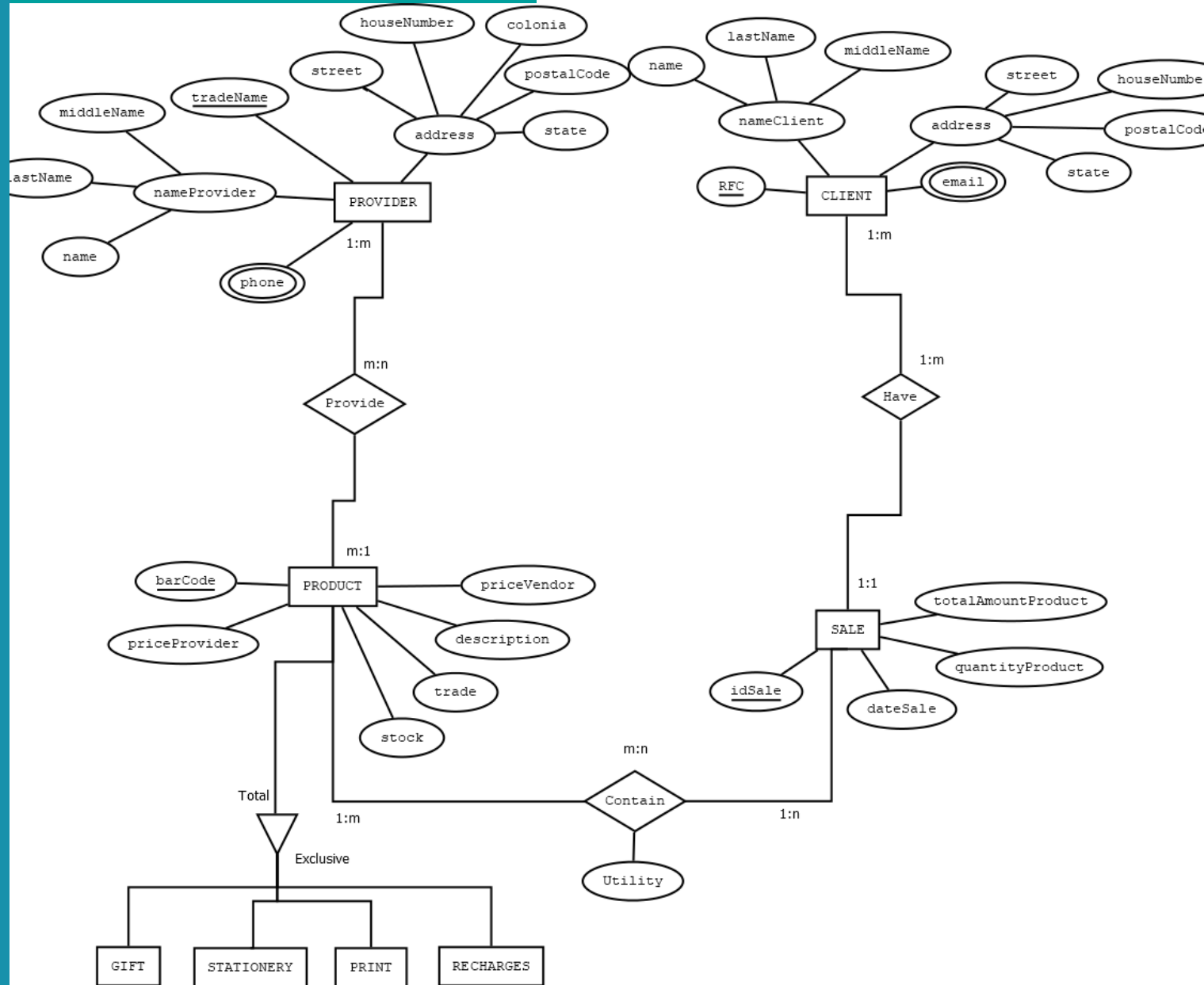
# Database's structure

Our structure's design has single computer that have dual function, as server where every send request arrive at server. Second function as data base, where has stored all information about the business line and internal process.

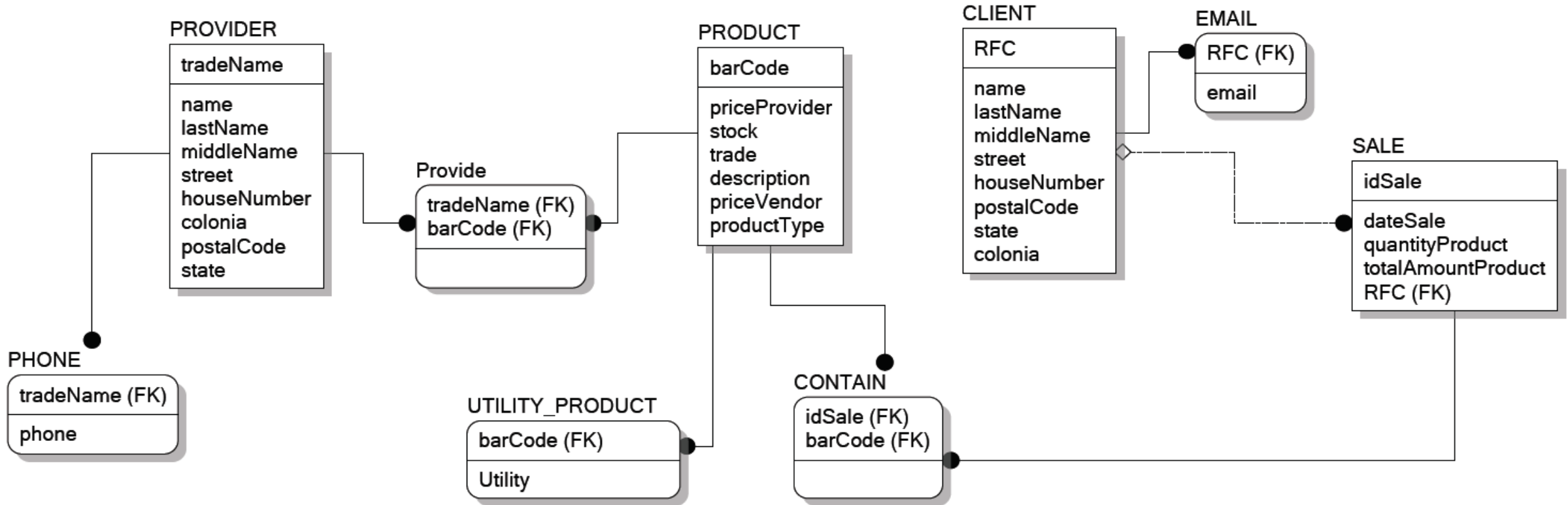
- **Server:** Server provide stored data of web site, where we can manipulate in simple form all data generated by information's flow. We use server with local area network(LAN).
- **Database:** Developed across client's requirements, database can store all information of business line structure. Client's information, sale's transactions, providers information and complete data around at products.

# Entity Relationship Model

Following all requirements of our client, for more details consult project document in GitHub, on GEANT folder



# Relationship Model





# Utility by product's bar code

```
1 CREATE OR REPLACE FUNCTION utility(barcode_chose VARCHAR)
2 RETURNS TABLE(
3     barcode_product VARCHAR,
4     trade_product VARCHAR,
5     description_product VARCHAR,
6     utility_product FLOAT)
7 AS $$
8 DECLARE
9     price_prov FLOAT;
10    price_ven FLOAT;
11    utility_net FLOAT;
12 BEGIN
13     SELECT priceprovider INTO price_prov FROM product WHERE barcode=barcode_chose;
14     SELECT pricevendor INTO price_ven FROM product WHERE barcode=barcode_chose;
15     utility_net= price_ven-price_prov;
16     RETURN QUERY SELECT
17         barcode,
18         trade,
19         description,
20         utility_net
21     FROM
22         product
23     WHERE
24         barcode=barcode_chose;
25 END; $$
26 LANGUAGE 'plpgsql';
```

# Updating product's stock while transaction's process is running

```
1 CREATE OR REPLACE FUNCTION INVENTARIO () RETURNS TRIGGER AS $$
2 DECLARE
3     stock2 INTEGER;
4     stock1 INTEGER;
5 BEGIN
6     select stock INTO stock2 FROM product WHERE barcode=new.idproduct;
7     stock1=new.quantityproduct;
8     RAISE NOTICE 'new idsale: %',new.idsale;
9     RAISE NOTICE 'stock1=quantityproduct: %',stock1;
10    CASE
11        WHEN stock2=1 or stock2<=0 THEN
12            RAISE EXCEPTION USING MESSAGE = 'No hay productos en stock.';
13        WHEN stock2<=3 THEN
14            RAISE WARNING 'Quedan 3 o menos piezas en Stock, stock % pz. - %',stock2, NOW();
15            UPDATE product
16            SET stock=stock2-stock1
17            WHERE barcode=new.idproduct;
18        WHEN stock2>3 THEN
19            UPDATE product
20            SET stock=stock2-stock1
21            WHERE barcode=new.idproduct;
22            RAISE NOTICE 'Se realizo correctamente la actualización del stock %. stock2 %, stock1 %', now(), stock2, stock1;
23        ELSE
24            RAISE NOTICE 'Error en actualizar stock';
25    END CASE;
26    RETURN NEW;
27 END; $$
28 LANGUAGE 'plpgsql';
29
30 create trigger trstock before insert on sale
31 for each row execute procedure INVENTARIO();
```

```

1 CREATE OR REPLACE FUNCTION billinfo(IN id_sale VARCHAR)
2 RETURNS TABLE(
3     id_sale_bill VARCHAR,
4     barcode_bill VARCHAR,
5     description_bill VARCHAR,
6     quantityp_bill INTEGER,
7     price_vendor_bill FLOAT,
8     total_bill FLOAT
9 ) AS $$
10 DECLARE
11     total_p FLOAT;
12     price_prod FLOAT;
13     quant INTEGER;
14     idd_sale VARCHAR;
15     name_bill VARCHAR;
16     last_name_bill VARCHAR;
17     rfc_bill VARCHAR;
18     street_bill VARCHAR;
19     house_bill VARCHAR;
20     colonia_bill VARCHAR;
21     postal_code_bill VARCHAR;
22     state_bill VARCHAR;
23 BEGIN
24     SELECT c.name INTO name_bill FROM client c INNER JOIN sale s ON c.rfc=s.rfc WHERE idsale=id_sale;
25     SELECT c.lastname INTO last_name_bill FROM client c INNER JOIN sale s ON c.rfc=s.rfc WHERE idsale=id_sale;
26     SELECT c.rfc INTO rfc_bill FROM client c INNER JOIN sale s ON c.rfc=s.rfc WHERE idsale=id_sale;
27     SELECT c.street INTO street_bill FROM client c INNER JOIN sale s ON c.rfc=s.rfc WHERE idsale=id_sale;
28     SELECT c.housenumber INTO house_bill FROM client c INNER JOIN sale s ON c.rfc=s.rfc WHERE idsale=id_sale;
29     SELECT c.colonia INTO colonia_bill FROM client c INNER JOIN sale s ON c.rfc=s.rfc WHERE idsale=id_sale;
30     SELECT c.postalcode INTO postal_code_bill FROM client c INNER JOIN sale s ON c.rfc=s.rfc WHERE idsale=id_sale;
31     SELECT c.state INTO state_bill FROM client c INNER JOIN sale s ON c.rfc=s.rfc WHERE idsale=id_sale;
32
33     RAISE NOTICE 'GEANT S. de R.L. de C.V.';
34     RAISE NOTICE 'www.geantcommerce.com.mx';
35     RAISE NOTICE 'Telephone: 26-45-78-41';
36     RAISE NOTICE 'Alvaro Obregón, Ciudad de México.';
37     RAISE NOTICE 'Bill to % %',name_bill,last_name_bill;
38     RAISE NOTICE 'RFC: %',rfc_bill;
39     RAISE NOTICE 'Address: %, %, %, %, %',street_bill, house_bill, colonia_bill, postal_code_bill, state_bill;
40     SELECT pricevendor INTO price_prod FROM product INNER JOIN sale ON barcode=idproduct WHERE idsale=id_sale;
41     SELECT quantityproduct INTO quant FROM product INNER JOIN sale ON barcode=idproduct WHERE idsale=id_sale;
42     total_p=quant*price_prod;
43     idd_sale=id_sale;
44     RETURN QUERY SELECT
45         idd_sale,
46         barcode,
47         description,
48         quant,
49         price_prod,
50         total_p
51     FROM
52         product INNER JOIN sale ON barcode=idproduct
53     WHERE
54         idsale=id_sale;
55 END; $$
56 LANGUAGE 'plpgsql';

```

# Generation of bill view

Income idsale parameter



# Shows sales on date range

Shows all sales on date range, can receive one or two parameters

```
1  --create store procedure (function) that given a date, returns all sales on these date
2  CREATE OR REPLACE FUNCTION salesbydate(datestart date, dateend date)
3  RETURNS TABLE(
4      sale_identifier VARCHAR,
5      sale_date DATE,
6      sale_amount FLOAT,
7      rfc_sale VARCHAR)
8  AS $$
9  BEGIN
10     IF (dateend is null) THEN
11         RETURN QUERY SELECT
12             idsale,
13             datesale,
14             totalamountproduct,
15             rfc
16         FROM
17             sale
18         WHERE
19             datesale=datestart;
20     ELSE
21         RETURN QUERY SELECT
22             idsale,
23             datesale,
24             totalamountproduct,
25             rfc
26         FROM
27             sale
28         WHERE
29             datesale BETWEEN datestart and dateend
30         ORDER BY datesale;
31     END IF;
32 END; $$
33 LANGUAGE 'plpgsql';
```

```

1 CREATE OR REPLACE FUNCTION checkstock() RETURNS TABLE(
2     barcode_checks VARCHAR,
3     priceprovider_check FLOAT,
4     stock_checks INTEGER,
5     trade_checks VARCHAR,
6     description_checks VARCHAR,
7     pricevendor_check FLOAT,
8     product_type VARCHAR
9 )
10 AS $$
11 BEGIN
12     RETURN QUERY SELECT
13         barcode,
14         priceprovider,
15         stock,
16         trade,
17         description,
18         pricevendor,
19         producttype
20     FROM
21         product
22     WHERE
23         stock<3;
24 END; $$
25 LANGUAGE 'plpgsql';
26

```

# Check product's stock less than three pieces

Give us all products where stock is less than 3 pieces

# Create index to optimizing searching on database

```
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    } else {
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    }

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    fn.apply(this, arguments);
};

//bind the modified fn to the element
$.fn.appear.one('appear', settings.data, modifiedFn);
```

create index indiceventa on  
sale (idsale)



# Web built

## Server

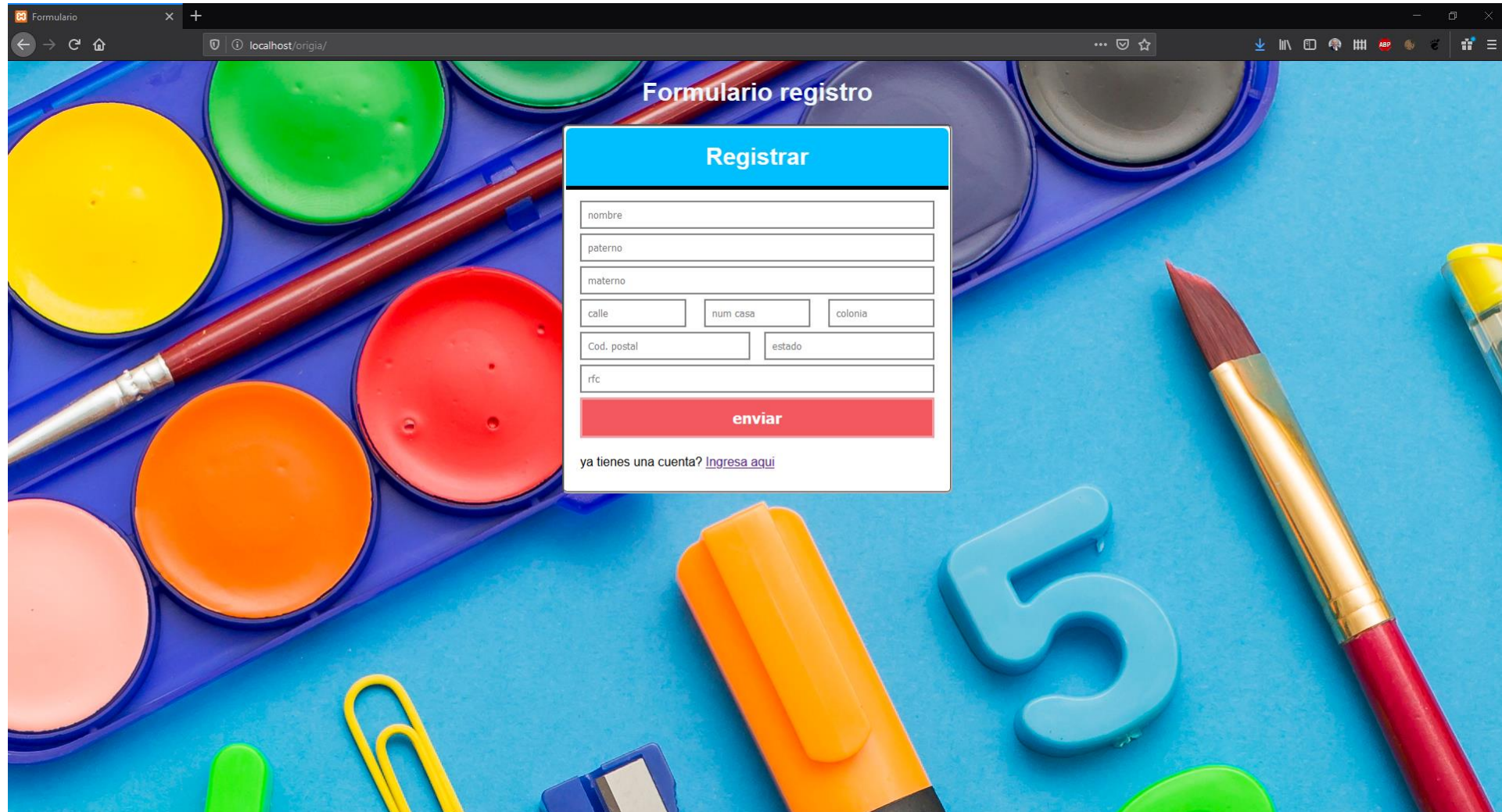
- We use Xampp as config local computer as server. For the connection of our database with the web interface, it was necessary to use the Xampp software, which is a server with Apache distribution which will be in charge of making a connection between the database in Postgresql and php.



## Web page

- For designing web page we using php, css and xampp environment. Web page have a login screen, if login is success we passed to main page of stationery business. If not passed, we can register and continuous

# Sign up form



Formulario registro

**Registrar**

nombre

paterno

materno

calle  num casa  colonia

Cod. postal  estado

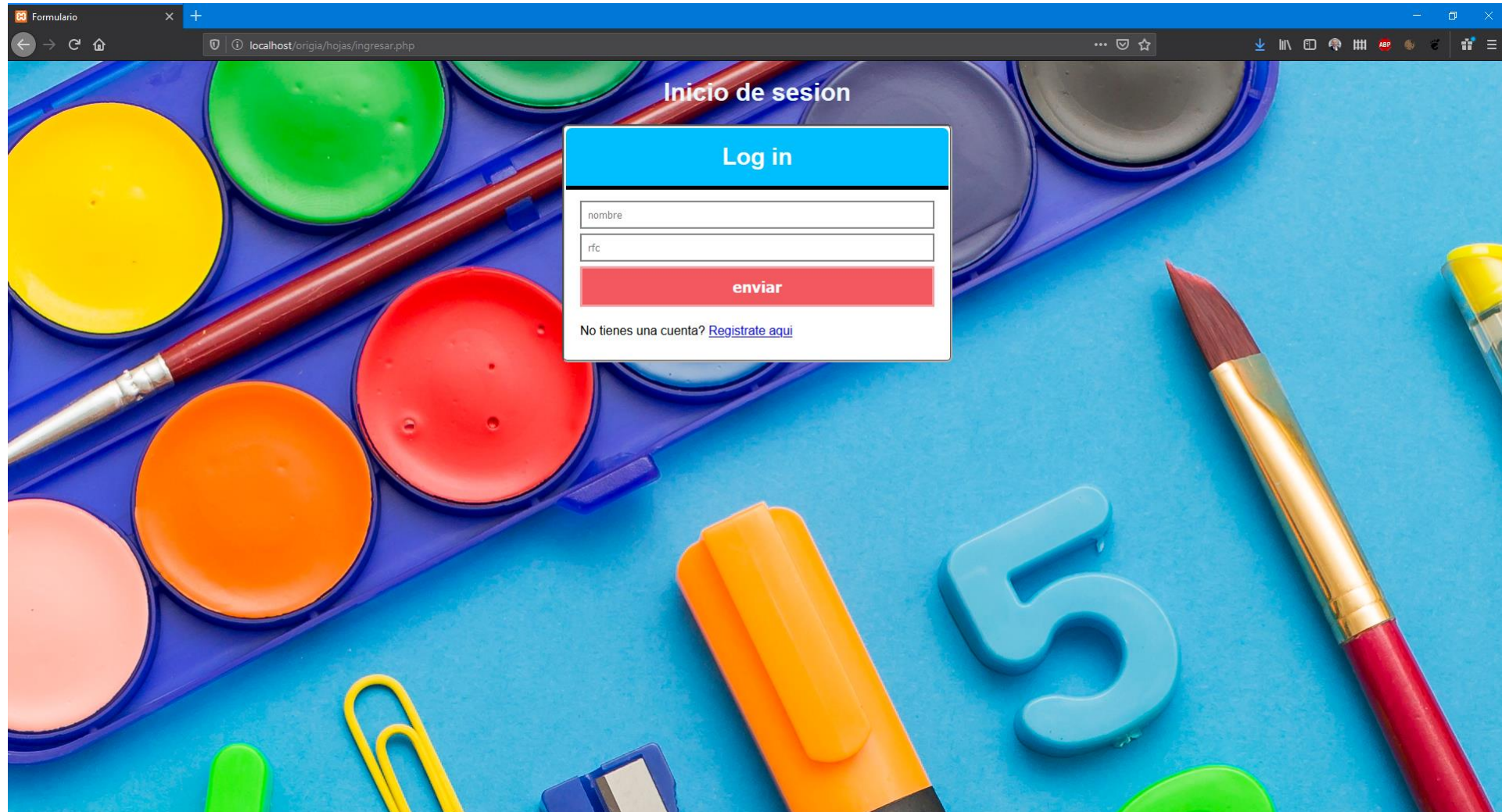
rfc

**enviar**

ya tienes una cuenta? [Ingresa aqui](#)



# Sign in form



The image shows a web browser window with a blue header bar. The address bar displays 'localhost/origia/hojas/ingresar.php'. The main content area features a background image of various school supplies like paint palettes, brushes, and paper clips. Overlaid on this is a white login form with a blue header. The form contains two input fields for 'nombre' and 'rfc', a red 'enviar' button, and a link for registration.

Inicio de sesion

Log in

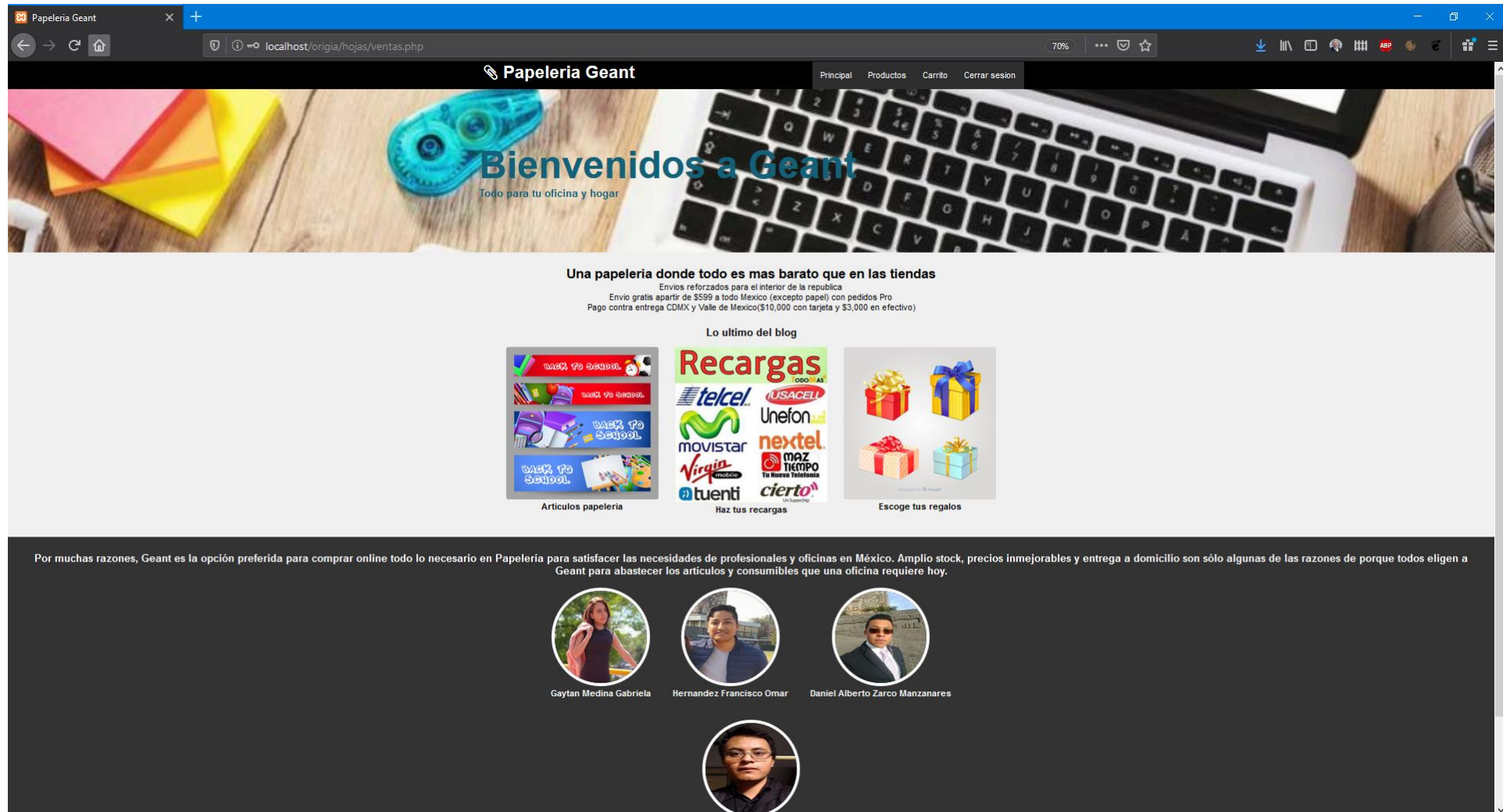
nombre

rfc

enviar

No tienes una cuenta? [Regístrate aquí](#)

# Main page of web





# Sale page

Papelería Geant

PrincipalProductosCarritoCerrar sesión

Bienvenidos a Geant

Todo para tu oficina y hogar

Productos		
Trade	Description	Pricevendedor
UNEFON	Recarga de \$50 C/paquete de datos vig. 3 d/a	50
Mgnaco	Mochila Mgnaco 12prom Serig lrmica	864.85
AT&T	Recarga de \$50 C/paquete de datos vig. 3 d/a	50
HP Original	Paquete Papel Bond Carta Hp Original 500 Hojas	159.65
BIC Crystal	Boligrafo Bic Med C/12 Pza Azul	45.62
HP Papers	Paquete Papel Bond Carta HP Multi 500 Hojas	190.35
Telcel	Recarga de \$50 C/paquete de datos vig. 3 d/a	50

Cantidad

0

0

0

0

0

0

0

0

Comprar

Por muchas razones, Geant es la opción preferida para comprar online todo lo necesario en Papelería para satisfacer las necesidades de profesionales y oficinas en México. Amplio stock, precios inmejorables y entrega a domicilio son sólo algunas de las razones de porque todos eligen a Geant para abastecer los artículos y consumibles que una oficina requiere hoy.

# Sale transaction example

Papeleria Geant

localhost/origia/hojas/pruev.php

Principal Productos Carrito Cerrar sesion

## Bienvenidos a Geant

Todo para tu oficina y hogar

Producto	Subtotal
UNEFON	50
Ménao	0
AT&T	50
HP Original	0
BIC Crystal	45.62
HP Papers	0
Telcel	50
<b>Total</b>	<b>195.62</b>

Por muchas razones, Geant es la opción preferida para comprar online todo lo necesario en Papelería para satisfacer las necesidades de profesionales y oficinas en México. Amplio stock, precios inmejorables y entrega a domicilio.

# Our results



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Our clients be part of  
GEANT

Our project generates  
value and growth



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Our process are  
parallels from design at  
implementation

Quality is our priority



# THANKS FOR YOU ATENTION



**Daniel A. Zarco  
Manzanares**

Chief Technology Officer &  
Project Manager



**Gabriela Gaytan  
Medina**

Database Analyst



**Omar Hernandez  
Francisco**

Web Built Officer



**Josué David Rivera  
Arellano**

Developer Analyst