

UNIVERSITY OF THE ARMED FORCES ESPE

Homework 28 Inspection about cohesion

Inspectors: NullPointers

Group: 5

Members:

- Darwin Valdiviezo
- Sebastian Solano
- Edwin Salazar
- Nicolás Suquillo
- Diego Portilla

Group: 4

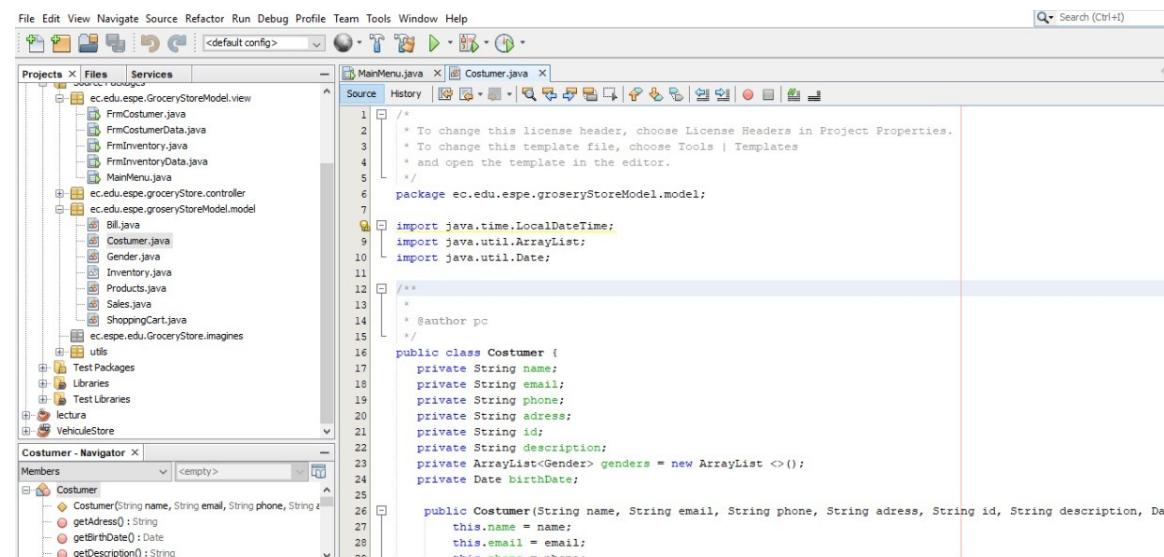
Project: Grosery Store

Members:

- Guaman Jadan, Byron Vinicio
- Mena Realpe, Kevin Paul
- Mortensen Franco, Eduardo Antonio
- Palacios Barahona, Lenin Javier

Screens:

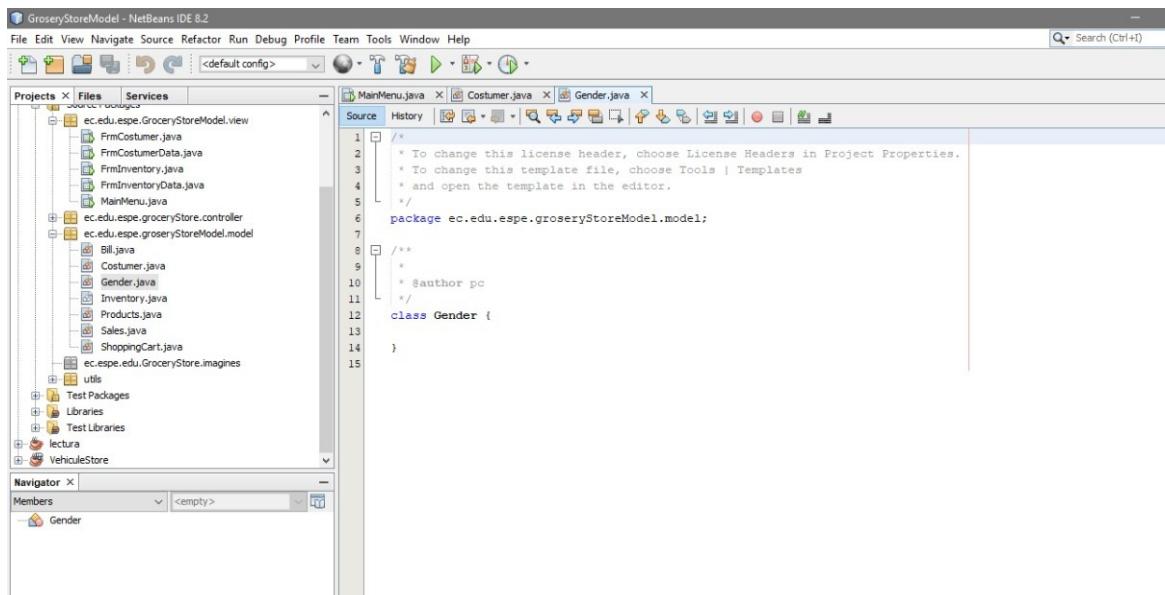
ABSTRACTION:



```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Projects X Files Services ec.edu.espe.GroceryStoreModel.view
Main Menu.java X Costumer.java X
Source History
1 /**
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5 */
6 package ec.edu.espe.groceryStoreModel.model;
7
8 import java.time.LocalDateTime;
9 import java.util.ArrayList;
10 import java.util.Date;
11
12 /**
13  *
14  * @author pc
15 */
16 public class Costumer {
17     private String name;
18     private String email;
19     private String phone;
20     private String adress;
21     private String id;
22     private String description;
23     private ArrayList<Gender> genders = new ArrayList<>();
24     private Date birthDate;
25
26     public Costumer(String name, String email, String phone, String id, String description, ArrayList<Gender> genders) {
27         this.name = name;
28         this.email = email;
29         this.phone = phone;
30         this.id = id;
31         this.description = description;
32         this.genders = genders;
33     }
34
35     public String getName() {
36         return name;
37     }
38
39     public void setName(String name) {
40         this.name = name;
41     }
42
43     public String getEmail() {
44         return email;
45     }
46
47     public void setEmail(String email) {
48         this.email = email;
49     }
50
51     public String getPhone() {
52         return phone;
53     }
54
55     public void setPhone(String phone) {
56         this.phone = phone;
57     }
58
59     public String getId() {
60         return id;
61     }
62
63     public void setId(String id) {
64         this.id = id;
65     }
66
67     public String getDescription() {
68         return description;
69     }
70
71     public void setDescription(String description) {
72         this.description = description;
73     }
74
75     public ArrayList<Gender> getGenders() {
76         return genders;
77     }
78
79     public void setGenders(ArrayList<Gender> genders) {
80         this.genders = genders;
81     }
82
83     public Date getBirthDate() {
84         return birthDate;
85     }
86
87     public void setBirthDate(Date birthDate) {
88         this.birthDate = birthDate;
89     }
90 }
```

`java.time.LocalDateTime` unused

MODULARITY:

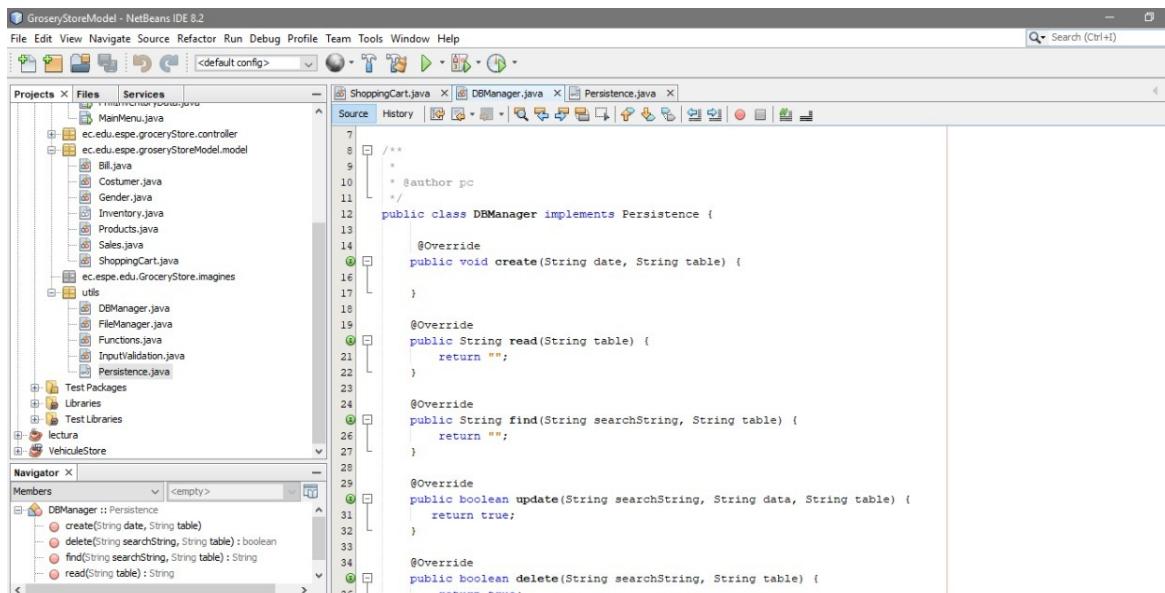


The screenshot shows the NetBeans IDE interface with the title "GroceryStoreModel - NetBeans IDE 8.2". The left pane displays a project tree for "GroceryStoreModel" containing packages like "ec.edu.espe.GroceryStoreModel.view", "ec.edu.espe.groceryStore.controller", and "ec.edu.espe.groceryStoreModel.model". The right pane shows the code editor for "Gender.java" with the following content:

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package ec.edu.espe.groceryStoreModel.model;

/**
 *
 * @author pc
 */
class Gender {
```

Declare an unused class



The screenshot shows the NetBeans IDE interface with the title "GroceryStoreModel - NetBeans IDE 8.2". The left pane displays a project tree for "GroceryStoreModel" containing packages like "ec.edu.espe.groceryStore.controller", "ec.edu.espe.groceryStoreModel.model", and "ec.edu.espe.GroceryStore.images". The right pane shows the code editor for "DBManager.java" with the following content:

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package ec.edu.espe.groceryStoreModel.model;

public class DBManager implements Persistence {

    @Override
    public void create(String date, String table) {
    }

    @Override
    public String read(String table) {
        return "";
    }

    @Override
    public String find(String searchString, String table) {
        return "";
    }

    @Override
    public boolean update(String searchString, String data, String table) {
        return true;
    }

    @Override
    public boolean delete(String searchString, String table) {
        return true;
    }
}
```

Declare functions that do nothing

GroceryStoreModel - NetBeans IDE 8.2

```

Source History | < default config > | < default config > | Persistence.java | ShoppingCart.java | DBManager.java | Persistence.java | < default config >
Projects X Files Services
Mainmenu.java
ec.edu.espe.groceryStore.controller
ec.edu.espe.groceryStoreModel.model
Bill.java
Customer.java
Gender.java
Inventory.java
Products.java
Sales.java
ShoppingCart.java
ec.espe.edu.GroceryStore.images
utils
DBManager.java
FileManager.java
Functions.java
InputValidation.java
Persistence.java
Test Packages
Libraries
Test Libraries
lectura
VehicleStore
Navigator X
Members <empty>
Members Persistence :: none
create(String date, String table)
delete(String searchString, String table) : boolean
equals(Object o) : boolean
find(String searchString, String table) : String
hashCode() : int

```

```

4      * and open the template in the editor.
5      */
6      package utils;
7
8      /**
9       *
10      * @author pc
11      */
12
13     public interface Persistence {
14         public void create(String date, String table);
15         public String read(String table);
16         public String find(String searchString, String table);
17         public boolean update(String searchString, String date, String table);
18         public boolean delete(String searchString, String table);
19
20     @Override
21     public String toString();
22
23     @Override
24     public boolean equals(Object o);
25
26     @Override
27     public int hashCode();
28 }
29
30
31
32
33
34
35
36
37
38
39
39
40
41
42

```

Overwrite functions that are empty

GroceryStoreModel - NetBeans IDE 8.2

```

Source History | < default config > | < default config > | FileManager.java | Persistence.java | ShoppingCart.java | DBManager.java | Persistence.java | < default config >
Projects X Files Services
Mainmenu.java
ec.edu.espe.groceryStore.controller
ec.edu.espe.groceryStoreModel.model
Bill.java
Customer.java
Gender.java
Inventory.java
Products.java
Sales.java
ShoppingCart.java
ec.espe.edu.GroceryStore.images
utils
DBManager.java
FileManager.java
Functions.java
InputValidation.java
Persistence.java
Test Packages
Libraries
Test Libraries
lectura
VehicleStore
Navigator X
Members <empty>
Members Functions :: none
computeDiscountUsed(float price) : float
computeIva(float price) : float
computeSeasonDiscount(float price, float seasonDiscount) : float
computeTotalPriceWithSeasonDiscount(float price, float seasonDiscount) : float

```

```

13     * @author pc
14
15     public class Functions {
16         Scanner sn = new Scanner(System.in);
17         static float discountUsed=0.00F;
18         static float ivaPercentage= 12.00F;
19
20         public static float computeIva(float price){
21             float ivaPrice;
22             ivaPrice=price*ivaPercentage/100;
23             return ivaPrice;
24         }
25
26         public static float computeTotalprice(float price){
27             float totalPrice;
28             totalPrice=price+ price*ivaPercentage/100;
29             return totalPrice;
30         }
31
32         public static float computeSeasonDiscount(float price, float seasonDiscount ) {
33             float seasonPrice;
34             seasonPrice=price*seasonDiscount/100;
35             return seasonPrice;
36         }
37
38         public static float computeTotalPriceWithSeasonDiscount(float price, float seasonDiscount ) {
39             float totalSeasonPrice;
40             totalSeasonPrice=price-price*seasonDiscount/100;
41             return totalSeasonPrice;
42         }

```

GroceryStoreModel - NetBeans IDE 8.2

```

7   /*
8    * @author pc
9    */
10   public class InputValidation {
11       public static boolean validateCharacters(String data){
12           boolean isCharacter=true;
13           for(int i=0;i<data.length();i++){
14               char ch =data.charAt(i);
15               if (!(ch >= 'a' && ch <= 'z' || ch >= 'A' && ch <= 'Z' || ch==' ')){
16                   isCharacter = false;
17               }
18           }
19           return isCharacter;
20       }
21
22       public static boolean validateNumbers(String data){
23           boolean isCharacter=true;
24           for(int i=0;i<data.length();i++){
25               char ch =data.charAt(i);
26               if (!(ch >= '0' && ch<='9')){
27                   isCharacter = false;
28               }
29           }
30           return isCharacter;
31       }
32       public static boolean validateEmail(String data){
33           boolean isCharacter=true;
34           for(int i=0;i<data.length();i++){
35               char ch =data.charAt(i);
36               if (!isCharacter)
37                   return false;
38           }
39           return true;
40       }
41   }

```

GroceryStoreModel - NetBeans IDE 8.2

```

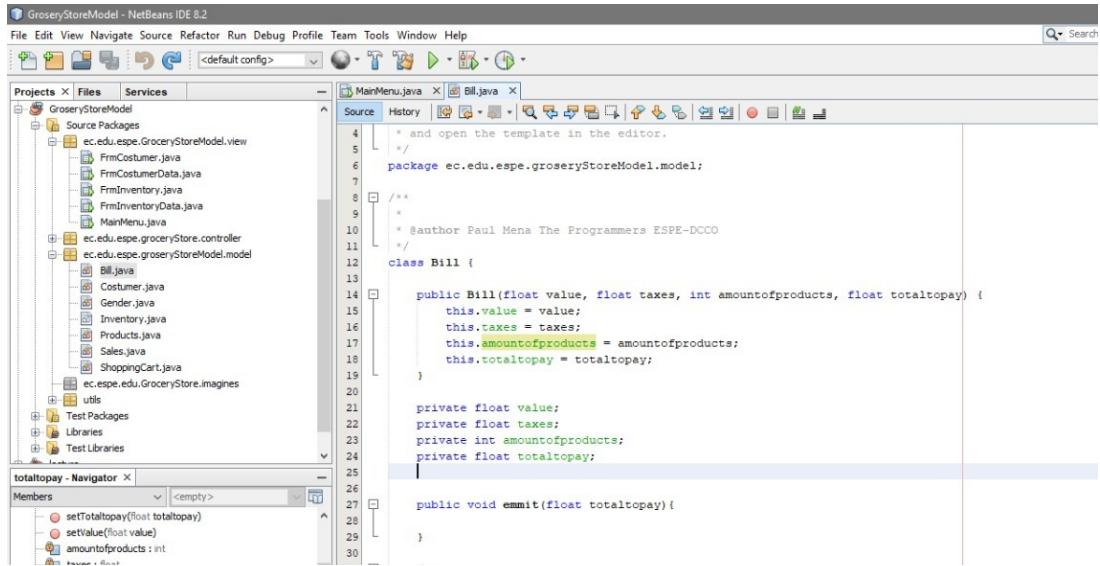
46   @SuppressWarnings("unchecked")
47   Generated Code
48
49   private void AddActionPerformed(java.awt.event.ActionEvent evt) {
50       BasicDBObject document = new BasicDBObject();
51       document.put("id", ""+txtId.getText());
52       document.put("description", ""+txtDescription.getText());
53       document.put("price", ""+txtPrice.getText());
54       document.put("type", ""+jType.getSelectedItem());
55       table.insert(document);
56   }
57
58   private void ShowActionPerformed(java.awt.event.ActionEvent evt) {
59       FrmInventoryData frmInventoryData = new FrmInventoryData();
60       frmInventoryData.setVisible(true);
61       dispose();
62   }
63
64   private void DeleteActionPerformed(java.awt.event.ActionEvent evt) {
65       BasicDBObject document = new BasicDBObject();
66       document.put("id", ""+txtId.getText());
67       document.put("description", ""+txtDescription.getText());
68       document.put("price", ""+txtPrice.getText());
69       document.put("type", ""+jType.getSelectedItem());
70       table.findAndRemove(document);
71   }
72
73   initComponents();
74
75   // Variables declaration - do not modify//GEN-BEGIN:variables
76   // End of variables declaration//GEN-END:variables

```

Use functions within buttons

Bad cohesion

ENCAPSULATION:



```
 * and open the template in the editor.
 */
package ec.edu.espe.groceryStoreModel.model;

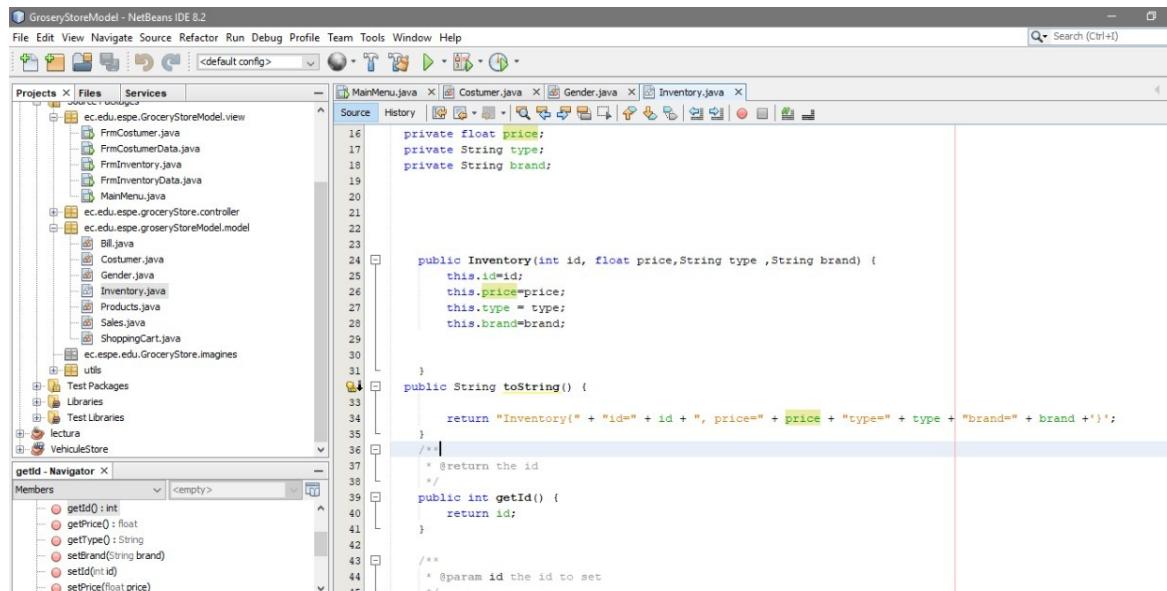
/**
 * @author Paul Mena The Programmers ESPE-DCCO
 */
class Bill {

    public Bill(float value, float taxes, int amountofproducts, float totaltopay) {
        this.value = value;
        this.taxes = taxes;
        this.amountofproducts = amountofproducts;
        this.totaltopay = totaltopay;
    }

    private float value;
    private float taxes;
    private int amountofproducts;
    private float totaltopay;

    public void emit(float totaltopay){
    }
}
```

Misnamed variables



```
private float price;
private String type;
private String brand;

public Inventory(int id, float price, String type, String brand) {
    this.id=id;
    this.price=price;
    this.type = type;
    this.brand=brand;
}

public String toString() {
    return "Inventory(" + "id=" + id + ", price=" + price + "type=" + type + "brand=" + brand + ")";
}

/* */
* @return the id
*/
public int getId() {
    return id;
}

/* */
* @param id the id to set
*/

```

To string is not used

GroceryStoreModel - NetBeans IDE 8.2

```

public float getVolume() {
    return volume;
}

/**
 * @param volume the volume to set
 */
public void setVolume(float volume) {
    this.volume = volume;
}

private String type;
private String brand;
private int amountproducts;
private float price;
private float weight;
private float volume;

public void buy()
{
}

```

buy - Navigator

Members

- Sales
 - Sales(ShoppingCart add, String type, String brand, int amount)
 - buy()
 - getAmountproducts(): int
 - getBrand(): String

misplaced variables and work misplaced in the model

GroceryStoreModel - NetBeans IDE 8.2

```

import java.util.ArrayList;

/*
 * Author Paul Mena The Programmers ESPE-DCCO
 */
public class ShoppingCart {

    public ShoppingCart(int numberofproducts, float price) {
        this.numberofproducts = numberofproducts;
        this.price = price;
    }

    private int numberofproducts;
    private float price;
    private ArrayList<Bill> give = new ArrayList<>();

    private void add() {
    }
    private void remove() {
    }
    private void count() {
    }
}

```

Navigator

Members

- ShoppingCart
 - ShoppingCart(int numberofproducts, float price)
 - add()
 - remove()
 - count()

misplaced variables and work misplaced in the model

```

/*
 * CostumerController.java
 */
public class CostumerController {
    private Costumer costumer;
    private FrmCostumer frmCostumer = new FrmCostumer();
    private Persistence dataManager = new DBManager();

    private ArrayList<Products> products= new ArrayList<>();

    public CostumerController(Costumer costumer, FrmCostumer frmCostumer, ArrayList<Products> products) {
        this.costumer = costumer;
        this.frmCostumer = frmCostumer;
        this.products = products;
    }

    public void addCostumer(Costumer costumer){
        //TODO read contacts(list) from database
        //TODO add tp database
        //usinf the utils class
        String costumerJson="()";
        dataManager.create(costumerJson, "costumer");
    }

    public ArrayList<Costumer> readCostumers(){
        ArrayList<Costumer> costumers = new ArrayList<>();
        //TODO read contacts from database
        //TODO use the utils class
        return costumers;
    }
}

```

Don't use the generated function for Json data bad coupling

```

/*
 * FrmInventory.java
 */
FrmCostumer frmCostumer = new FrmCostumer();
frmCostumer.setVisible(true);
dispose();

private void ShowActionPerformed(java.awt.event.ActionEvent evt) {
    table=db.getTableData("CostumerData");
    cursor = table.find();

    String[] columnNames = {"Nombre", "Email", "Telefono", "Direccion", "Id", "Descripcion", "Fecha de nacimiento"};
    DefaultTableModel model = new DefaultTableModel(columnNames, 0);

    while(cursor.hasNext()){
        DDBObject obj = cursor.next();
        String nombre = (String)obj.get("name");
        String email = (String)obj.get("email");
        String telefono = (String)obj.get("phone");
        String direccion=(String)obj.get("address");
        String id = (String)obj.get("id");
        String descripcion =(String)obj.get("description");
        String genero =(String)obj.get("gender");
        String FechaDeNacimiento =(String) obj.get("birthDate");

        model.addRow(new Object[] {nombre, email, telefono, direccion, id, descripcion, FechaDeNacimiento, genero});
    }
    DataView.setModel(model);
}

// ...

```

Using functions within buttons poor cohesion