# **DIY GARAGE**

Authors:

Raúl Parra

**Mikel Perez** 

**Ander García** 

**Markel Lomana** 

Ivan Kunne

Date:

2022/05/19



# **INDEX**

1-PROJECT CONTEXT	4
2-APPLICATION ANALYSIS	4
Web functionality	4
Database functionality	5
Application functionality	5
Python Application	5
3-APPLICATION DESIGN	6
Use case diagram PYTHON	6
Main menu	6
Users Management	7
Employees Management	8
Bookings Management	9
Product Management	10
Use case diagram WEB	11
Use case diagram JAVA	11
Class diagram	12
Database design	13
4-TASK PLANNING AND REGISTER	15
5- SOFTWARE APPLICATION IMPLEMENTATION/INSTALLATION	17
Data Base and Web Page	17
The Python application	17
The Java application	18

6-USERS GUIDE	19
The java application	19
Data Base	26
The python application	28
Web Page	31
7-THOUGHTS	32
Annexe 1 - Server users	32
Access Website	32
Bibliography	33

# 1-PROJECT CONTEXT

A garage needs an information system to manage its business.

Our goal is to develop and install an application to manage the daily tasks for a garage.

The garage is not going to be the typical garage since it is going to be a DIY garage. It will offer cabins for the users to rent, in these cabins the user will repair the car, moto or any other vehicle. The user can buy the items required for the repairs or can bring them to the garage.

The information system is going to manage employees, cabins renting, selling tools or required products to the users and receipts among others.

# 2-APPLICATION ANALYSIS

# **Web functionality**

Our website will be used by both users and the company's staff. It consists of 2 parts.

#### Users

In this section the page will obtain information about the company, it will give us the option to register to be able to make a reservation if we want it or also to contact the staff of the company.

Once registered and / or logged in we will have several options, purchases of products from the store, manage reservations where new reservations can be made and information about reservations made.

#### Staff

This section will only be used by the employees of the company, through the page they can manage and view the status of each



reservation in turn will also have the list of products, users and employees.

## **Database functionality**

We will use a MariaDB database to store all the information we need.

User data (name, surname, telephone...), Bookings (date, cabin...), Products (Prices, Stock...), Purchases (Purchase\_ID, Product...), Employees (name, surname, Employee ID...).

This information will be used and managed by the website and the application developed in java. By means of which it will be possible to access the DB and change the information.

## **Application functionality**

The company application will only be available to employees of the company. It will display all the information previously stored in the database, and can be accessed via a menu.

We will have the possibility to save the information in a file and to print it if necessary.

Some data will be shown through graphs, in order to see the comparison with previous dates.

# **Python Application**

The python application will be used by employees, although it will not be connected to any database they will be able to create or delete users, reservations, employees and products.

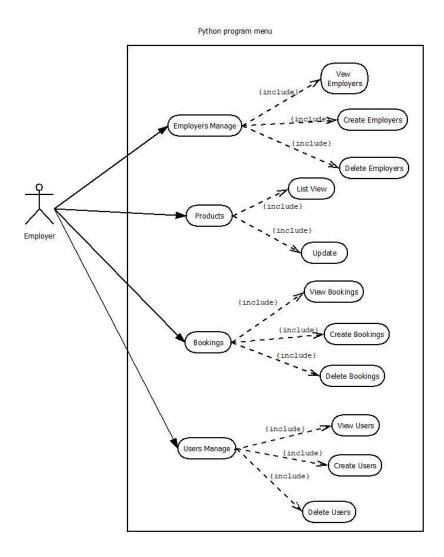
All this will be saved in a file.



# **3-APPLICATION DESIGN**

# **Use case diagram PYTHON**

#### Main menu



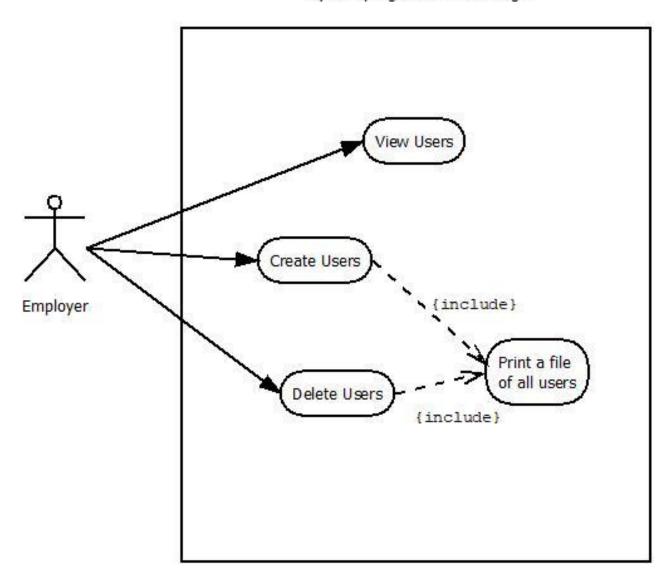
When you start the python program it will open a menu with four options, each of them will have a submenu where you can modify a list



with the information of users, employees, procuts and bookings. At some point will create a file where it will show the changes made in the list.

#### **Users Management**

Python program Users Manage



Once inside in the Users manage menu, you will have the option to view the users list, create and delete users.

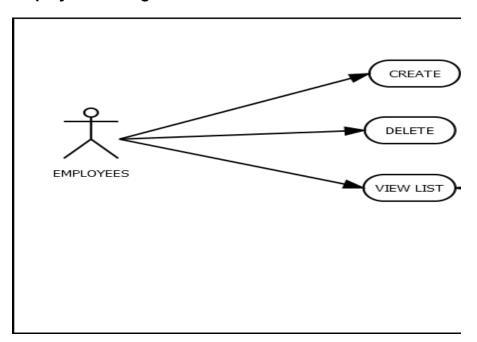
In the create users section you will need to write Username, Password and email to create the user, every user will be unique for no



duplications. In the delete user section you will need to use the username to delete all the information of this. And at last in the view users section you can see the list with all the users.

With create or delete users will create a file where they will put the changes on the list.

#### **Employees Management**



Once inside Employees Management there will be a submenu with 3 options to decide what we want to do.

In the option to create it will ask you to enter all the data of the new employee, phone, Id, name, surname ...

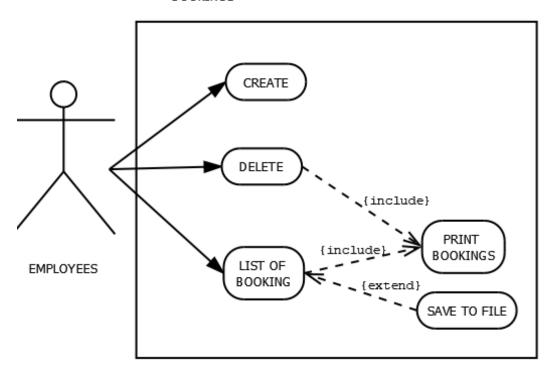
To remove an employee we will only need the Id, since no employee will use the same ID.

In the view list option, it will show us a list with all the employees of the company.



### **Bookings Management**

#### BOOKINGS



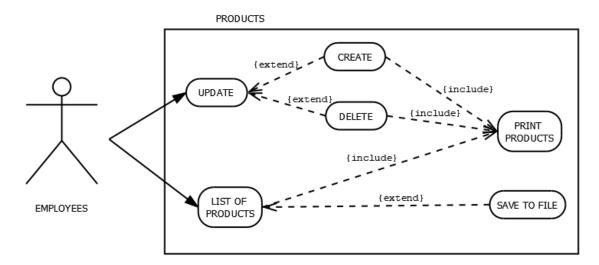
Once inside the reservation management menu, there is a submenu where the employee can create, delete and view the bookings made.

In the section to create the reservations, it will ask for ID card, name, surname, TLF and email to save. And as for deleting bookings, the bookings will be displayed in a list and the booking ID will be used to delete the booking.

Within the option to visualize the bookings you will be able to save all the bookings in a file.



#### **Product Management**



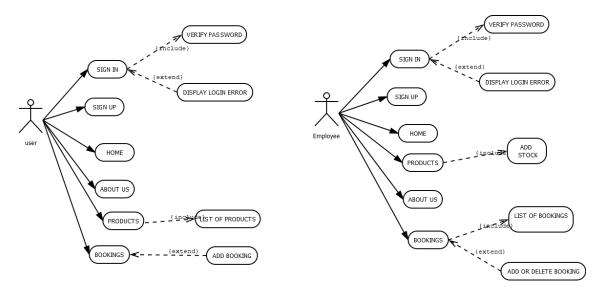
Once inside the product management menu, we will have a menu where the employee will be able to change the products and visualize the purchases made.

In the Update submenu, there is the possibility to create or delete products. In the section to create the products, the name and price information will be saved by means of questions. In the section to delete products, the products will be displayed in a list and the product ID will be used to delete the product.

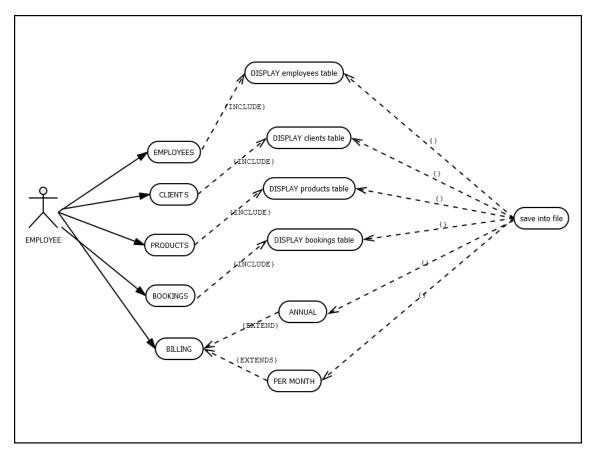
Within the display option you will be able to save all the products in a file.



# **Use case diagram WEB**

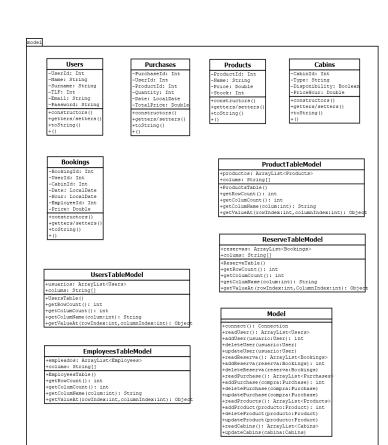


# Use case diagram JAVA





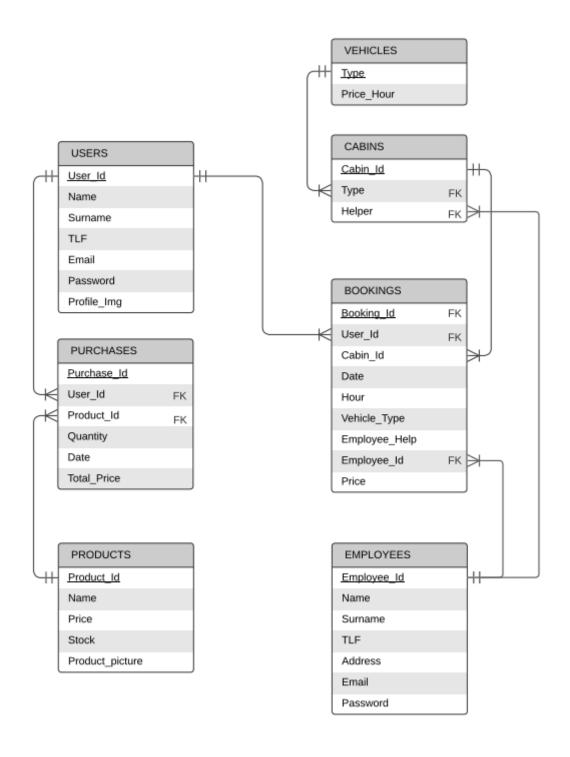
## Class diagram







# **Database design**





#### DIY GARAGE

3.Taldea | May 11, 2022

- PRODUCTS(Product\_Id, Name, Price, Stock, Product\_picture)
- PURCHASES(Purchase\_Id, User\_id, Product\_Id,Quantity,Date, Total\_Price)
- USERS(<u>User\_Id</u>, Name, Surname, TLF, Email, Password, Profile\_Img)
- BOOKINGS(<u>Booking\_Id</u>, User\_Id, Cabin\_Id, Date, Hour, Vehicle\_Type, Employee\_Help, Employee\_Id, Price)
- · CABINS(Cabin Id, Type, Helper)
- · VEHICLES(Type, Price\_Hour)
- WORK(<u>Cabin\_Id</u>, <u>Employee\_Id</u>)
- EMPLOYEES(Employee Id, Name, Surname, TLF, Address, Email, Password)





# 4-TASK PLANNING AND REGISTER

	Duration (hours)	Beginning date	Finishing date	Responsible
Individual DB diagram	1	23/03/2022	23/03/2022	All
List of textual reports	4	22/03/2022	25/03/2022	All
Web Page design Individual	2	25/03/2022	25/03/2022	All
USE CASE individual	4	23/03/2022	25/03/2022	All
which Python Menu select	1	22/03/2022	22/03/2022	All
Program Menu options 2-3	2	22/03/2022	23/03/2022	All
Web DB functionality	4	28/03/2022	28/03/2022	Markel Lomana
App Graphic interface design	4	25/03/2022	28/03/2022	Raúl Parra
Web Page Design	3	29/03/2022	29/03/2022	Mikel Perez
Group DB diagram	4	28/03/2022	29/03/2022	Markel Lomana
Java Use Case	2	29/03/2022	29/03/2022	All
Web Use Case	2	29/03/2022	29/03/2022	Raúl Parra and Markel
				Lomana
Program Class Diagram	3	30/03/2022	31/03/2022	Raúl Parra
Start programing PHP	14	30/03/2022	08/04/2022	Markel Lomana



Start web page		31/03/2022	17/05/2022	Mikel Perez and Markel
				Lomana
Start Java Program (basic)	14	31/03/2022	08/04/2022	Raúl Parra
Program PHP	42	25/03/2022	10/05/2022	Markel Lomana
Program Java	46	25/03/2022	10/05/2022	Raúl Parra and Markel
				Lomana
Start Java Graphics	20	25/04/2022	10/05/2022	Raul Parra
Program python	17	29/05/2022	16/05/2022	All
Documentation		23/03/2022	17/05/2022	Raúl Parra and Markel
				Lomana
PHP upgrade	8	11/05/2022	16/05/2022	Markel Lomana
sort DB	4	9/05/2022	11/05/2022	Markel Lomana



# 5- SOFTWARE APPLICATION IMPLEMENTATION/INSTALLATION

For the software installation we are going to use a server, an Ubuntu 20.04 virtual machine. Where our database, the website and the necessary applications will be hosted.

# **Data Base and Web Page**

For the implementation of the database we need a MySQL server, and for the implementation and development of the website we use Apache but it has to be able to read PHP scripting language.

So the best option is to install XAMPP, a free software for database management. It includes Apache, MySQL, PHP and Perl.

Once XAMPP has been installed on the Ubuntu server, access has been granted with the default user. Users and groups have been created with different permissions, in order to access the database from different applications such as the website or the application created in Java for the garage employees.

The next step was to create a database using PHPMyAdmin with the tables we are going to use and their different fields. You can see the database schema and table relationships in the <u>next point</u>.

The website will be hosted on the server, which will connect to the database via SQL statements, to view, add and change data.

In addition, in order to access the web page it will not be necessary to use the IP of the server, we have created a DNS server where by the link <a href="https://www.divgarage.eus">www.divgarage.eus</a> we will be able to access the page.

# **The Python application**

To develop the garage app from Python, we have used the IDE PyCharm. In addition, we will need the interpreter of python.



Once created the project we have to choose the downloaded interpreter and we can start developing the code.

For more information about the use of the application, click on the following <u>link</u>.

## **The Java application**

To develop the garage app from Java, you have to download and install Netbeans and download these libraries.

🖺 hamcrest-core-1.3.jar	12/05/2022 9:00	Executable Jar File	44 KB
🕌 jcommon-1.0.23.jar	12/05/2022 9:00	Executable Jar File	323 KB
🕌 jfreechart-1.0.19.jar	12/05/2022 9:00	Executable Jar File	1.534 KB
🕌 jfreechart-1.0.19-demo.jar	12/05/2022 9:00	Executable Jar File	1.404 KB
🕌 jfreechart-1.0.19-experimental.jar	12/05/2022 9:00	Executable Jar File	14 KB
🕌 jfreechart-1.0.19-swt.jar	12/05/2022 9:00	Executable Jar File	78 KB
🕌 jfreesvg-2.0.jar	12/05/2022 9:00	Executable Jar File	50 KB
🕌 junit-4.11.jar	12/05/2022 9:00	Executable Jar File	240 KB
🕌 mysql-connector-java-8.0.28.jar	12/05/2022 9:00	Executable Jar File	2.419 KB
🕌 orsoncharts-1.4-eval-nofx.jar	12/05/2022 9:00	Executable Jar File	435 KB
🖺 orsonpdf-1.6-eval.jar	12/05/2022 9:00	Executable Jar File	71 KB
≤ servlet.jar	12/05/2022 9:00	Executable Jar File	79 KB
🕌 swtgraphics2d.jar	12/05/2022 9:00	Executable Jar File	18 KB

Once you have installed all the libraries you must open netbeans and click on File→Open project→ search the project called AdminDIY.

(It's supposed that you have downloaded before the project AdminDIY)

Once this is done, run the project and enjoy it.

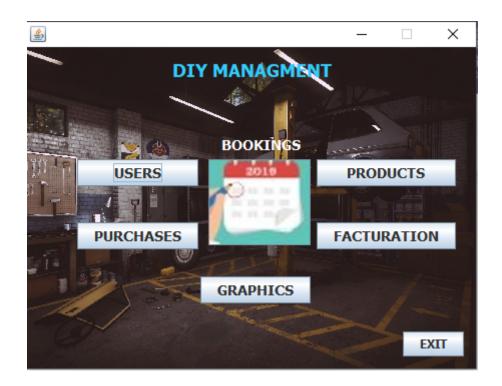
For more information about the use of the application, click on the following link.



# **6-USERS GUIDE**

# The java application

Once you have runned the application it will appear a first window, Home window.



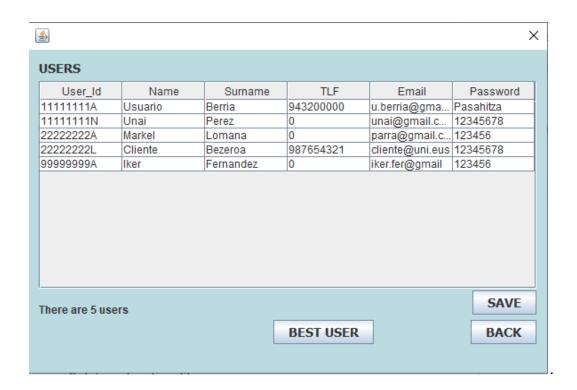
#### **MENU**

In this window, as you can see, we have 7 buttons, USERS, PRODUCTS, PURCHASES, FACTURATION, GRAPHICS, BOOKINGS AND EXIT.

#### **USERS**

If you click on Users Button another window will appear:





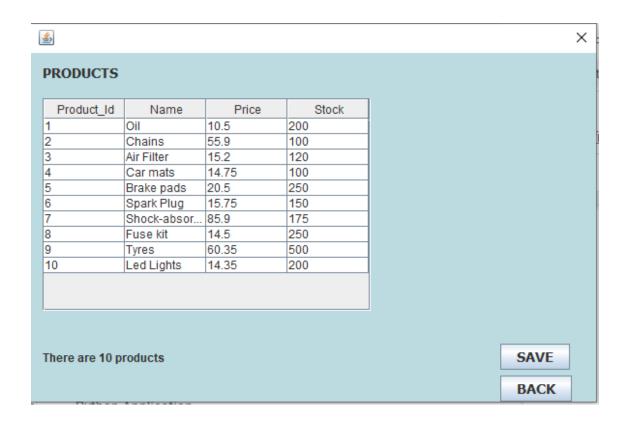
We have 3 buttons here, 1 for save into a file(SAVE), another one to see who is the user with most money spent(BEST USER), and a button to return(BACK).

#### **PRODUCTS**

If we click on Products button a new window with the information about the product will appear.

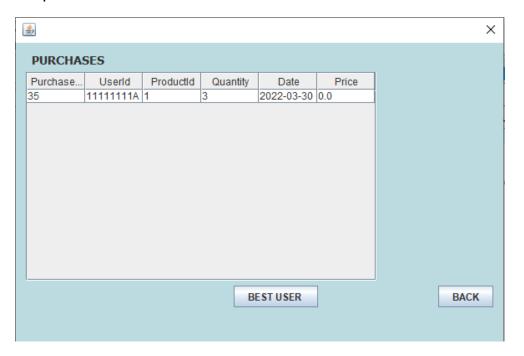
We also have a button for save into a file and another one to go back(BACK).





#### **PURCHASES**

The same for purchases button, new window with the information about the purchases.

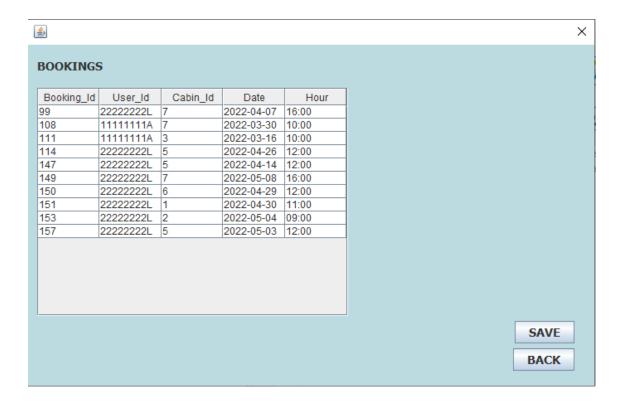




Best User button in this window will show us who is the client with the most money spent in purchases.

#### **BOOKINGS**

Once you click on the booking image, we will know the bookings of our garage.

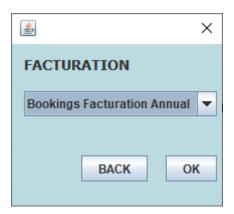


Save button also to save into a file and back button to return.

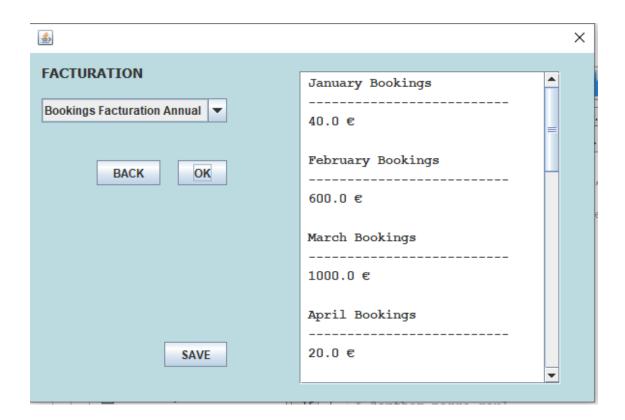
#### **FACTURATION**

When you click on the facturation button, a small window will appear where you can choose what information to see.





Once you have chosen an option you have to click the button OK, and it will show you the information.

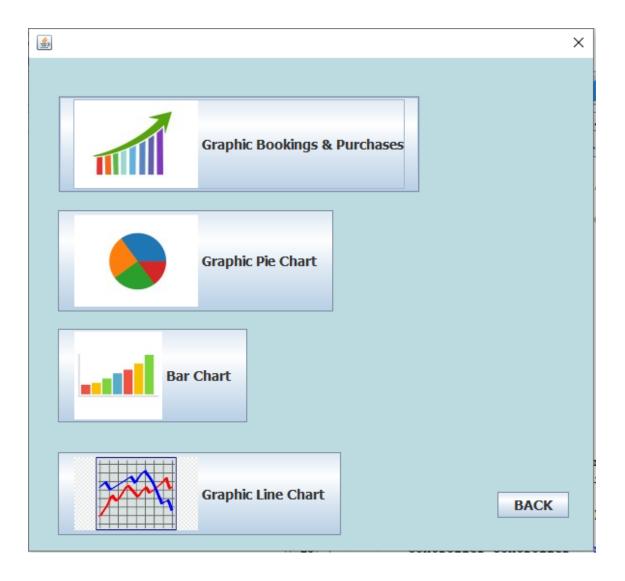


If we click on the save button it will save it into a file.



#### **GRAPHICS**

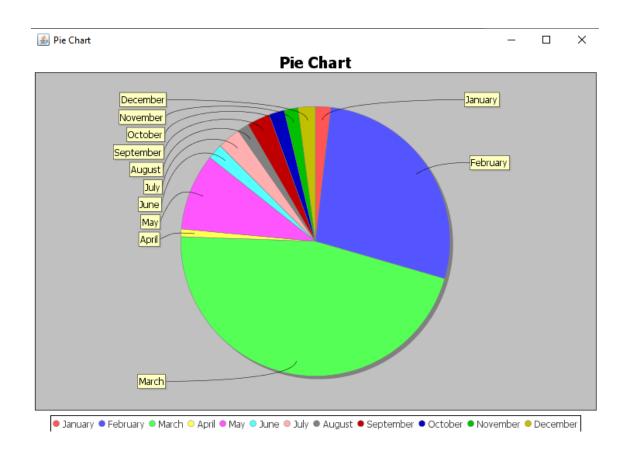
If we click on Graphics Button a new window with different buttons for each graphic will appear.



You have to click on the button of the graphic you want to see, when you click on the button of the graphic, it will also be saved into a file.

Example Graphic Pie Chart.





Finally if we click on Exit button the program will be closed.

#### \*All the files will be saved into a folder called files.\*

build	12/05/2022 9:00	Carpeta de archivos	
dist	12/05/2022 9:00	Carpeta de archivos	
files	04/05/2022 14:04	Carpeta de archivos	
nbproject	04/05/2022 14:04	Carpeta de archivos	
src	04/05/2022 14:04	Carpeta de archivos	
test	05/05/2022 8:15	Carpeta de archivos	
i build.xml	04/05/2022 14:04	Documento XML	4 KB
manifest.mf	04/05/2022 14:04	Archivo MF	1 KB



ArchivoProducts.csv	04/05/2022 14:04	Archivo de valores	1 KB
ArchivoUsers.csv	04/05/2022 14:04	Archivo de valores	1 KB
BarChart1.JPEG	05/05/2022 9:11	Archivo JPEG	78 KB
BarChart2.JPEG	05/05/2022 9:11	Archivo JPEG	128 KB
BookingsFacturation.csv	04/05/2022 14:04	Archivo de valores	1 KB
Line_Chart.JPEG	05/05/2022 9:11	Archivo JPEG	108 KB
PieChart.JPEG	12/05/2022 9:16	Archivo JPEG	75 KB
PurchaseFacturation.csv	04/05/2022 14:04	Archivo de valores	1 KB
TotalFacturation.csv	04/05/2022 14:04	Archivo de valores	1 KB

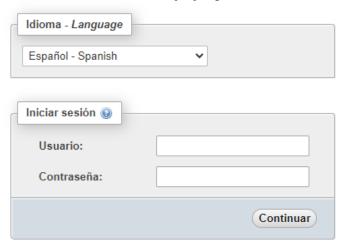
# **Data Base**

To access DB, it must be done through PHPMyAdmin, for that, in any browser you will write this:

192.168.72.76/phpmyadmin/

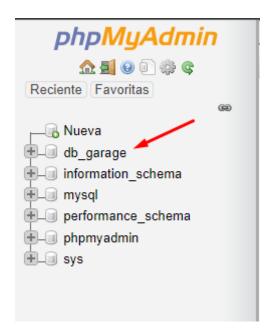


# Bienvenido a phpMyAdmin





With the <u>users of the annexe</u> we will access the main page. Here, on the left side of the screen, you can access the database.



Once inside the database we have the tables created on the left side and in the navigation bar we can visualize the TRIGGERs through the Disparadores tab and the relations between the tables in the Diseñador tab.



In the Browse tab of each table we can view the data already saved and delete, update or copy them. It is also very interesting the Insert tab to be able to add more data records to the table.

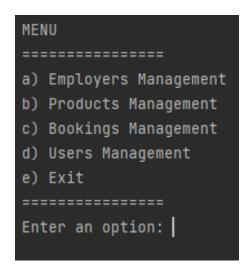




Administrators will be able to change the database structure, but it should be noted that before modifying important things, it is advisable to make a backup copy using the Export tab from db\_garage database.

# The python application

Once you have runned the application of Python, will appear the General Menu, where you can choose what you want to do.



#### Option A)

If you choose option A another submenu will appear, Employee management. There you can manage the employees of the garage.



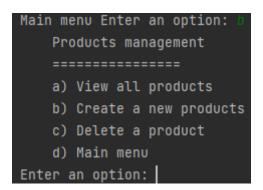
4 options, view employers, create new employees, delete an employee or return to the main Menu.

```
Enter an option: @
Employee management
=========
a) View all employers
b) Create a new employee
c) Delete an employee
d) Main menu
Enter an option:
```

## Option B)

If you choose option B another submenu will appear, Products management. There you can manage the products of the garage.

4 options, view products, create new products, delete a product or return to the main Menu.



# Option C)

If you choose option C another submenu will appear, Booking management. There you can manage the bookings of the garage.

4 options, Create booking, delete a booking, list of Bookings or return to the main Menu.



```
Enter an option: 0

Bookings

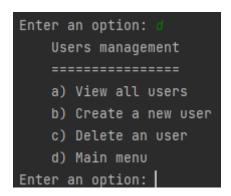
========

a) Create a Booking
b) Delete a Booking
c) List of Bookings
d) Main Menu
Enter an option:
```

#### Option D)

If you choose option D another submenu will appear, Users management. There you can manage the users of the garage.

4 options, view users, create new users, delete an user or return to the main Menu.



### Option E)

If you choose the E option the program will be closed.

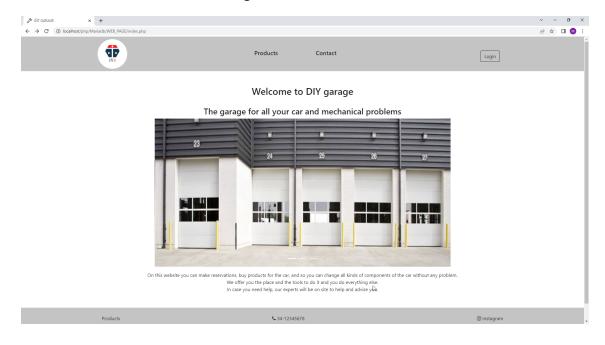
After closing the program the information will be saved into a txt file.



📴 Basic.py	11/05/2022 12:08	Python File	5 KB
employee_data.pkl	03/05/2022 11:40	Archivo PKL	1 KB
employee_data.txt	11/05/2022 12:08	Documento de te	1 KB
📴 Employees.py	03/05/2022 11:40	Python File	1 KB
🔋 employers_menu.py	10/05/2022 13:17	Python File	2 KB
📴 menu.py	10/05/2022 12:56	Python File	1 KB
📴 Person.py	03/05/2022 11:40	Python File	2 KB
Products.py	10/05/2022 12:34	Python File	1 KB
products_data.txt	11/05/2022 12:03	Documento de te	1 KB
🗦 products_menu.py	11/05/2022 12:15	Python File	2 KB
user_data.txt	06/05/2022 11:48	Documento de te	1 KB
📴 Users.py	03/05/2022 11:40	Python File	1 KB
🔋 users_menu.py	10/05/2022 12:26	Python File	2 KB

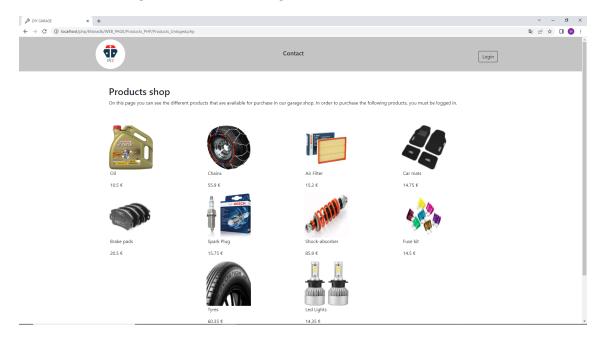
# Web Page

When you enter the web page you will find the information of what you can do on the web page and a gallery image, with other three options: Products, Contact and Login.

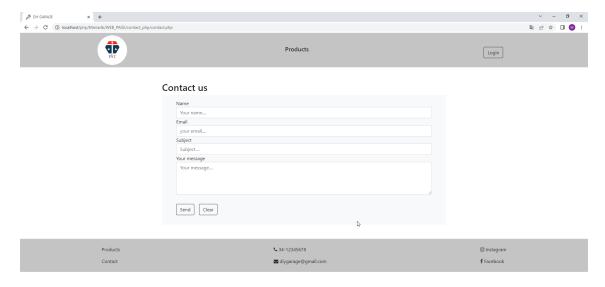




If you click on the Products button without login out as a user you can only see the products on the shop and what price they have. It will only appear the Contact and Login buttons, the logo of the company turns into a button to go to the home page.

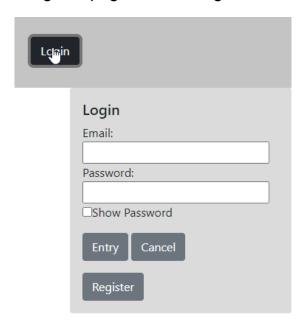


In the Contact page you will have a questionnaire to contact the company without login.

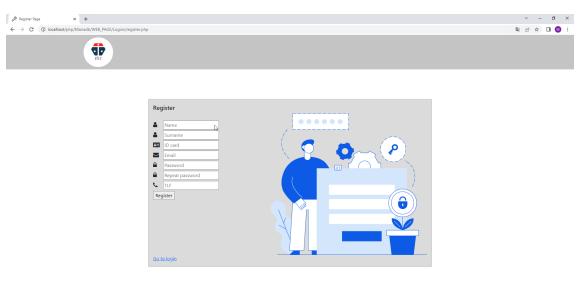




When you click on the login button it will show a submenu where you can put your email and password to get logged as a user or an Employer or you can go to the register page with the register button.



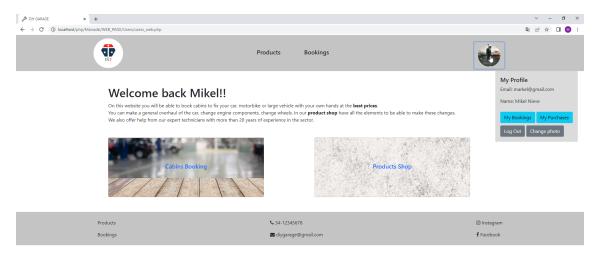
On the Register page you can register only as a user.





#### **USER LOGGED**

When you get logged in the web as a user it will have a little explanation of what you can do as a user with some buttons that will take you to the Products and Bookings page. The login button will change into a profile image and if you click on it it will show a submenu where you can go to your product purchases and bookings, and change your photo profile.



The Product purchases and Bookings buttons will show you a list of the products and bookings you purchase.





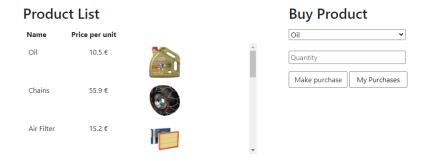
Your Purchases list					
Purchase Id	Product Id	Quantity	Date	Total Price	
3	2	4	2022-02-11	30	Ŵ
9	7	8	2022-08-19	120	Ŵ
11	5	4	2022-10-13	60	⑩
13	1	6	2022-12-26	36.75	

In the Product page you can buy the products in the end of the page with a little formulary, then the product you choose to buy will get registered on the purchases list of the user.

#### **Products shop**

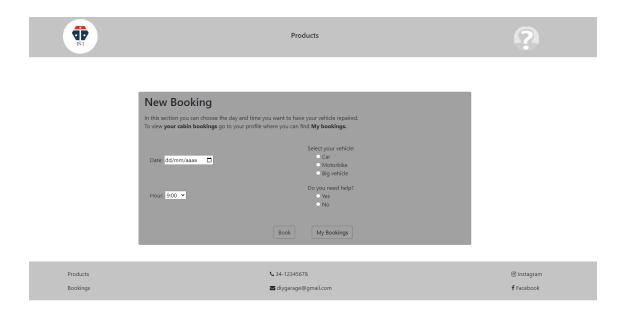
This is the list of products we currently have in our shop. In order to purchase the following products, please **scroll down** to the bottom where you can choose the product and quantity.

To view your purchases go to **your profile** where you can find **My Purchases**.



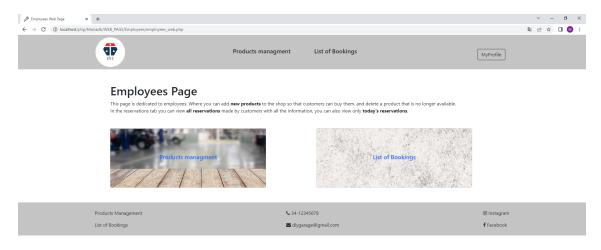
In the Bookings page you can make a booking with formulary on the page, then this one will get registered on the Booking list of the user.





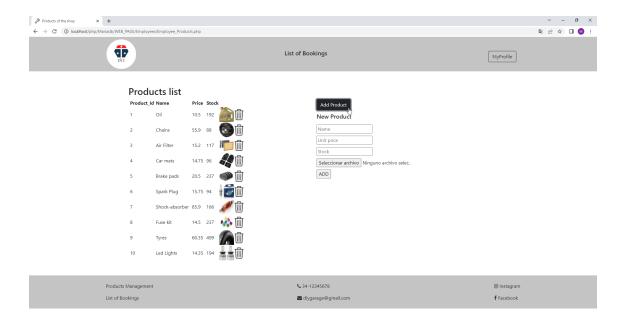
#### **EMPLOYER LOGGED**

When you get logged as an Employer the page will explain what the employer can do on the web page. Then it will have some buttons to the Products management and the bookings of the day list. The profile button will only contain the name and the email of the employer and the option to get logged out.

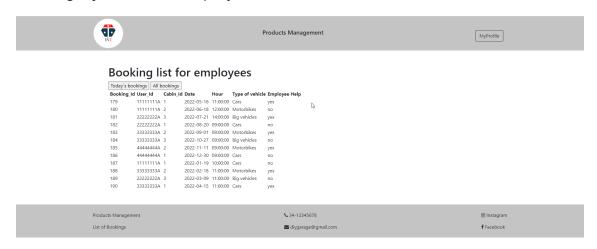


The Product Management page the employer will be available to add new products and delete other products.





The Booking page just will show the bookings of the day and all the bookings, just for the employer information.





# 7-THOUGHTS

We think it's a good experience to learn how to work in a group.

Working as a group is always more difficult than working alone, because we all have to agree on how to do it.

We divided the work into several parts and gave a role to each participant of the group, in order to have a person responsible for each part of the work.

We also did not know how each one works, and at the beginning it is always difficult to coordinate.

With this in mind, the work we've done we think has been good.

So after all, the work went as planned, and we are very satisfied with the work we have done.

# **Annexe 1 - Server users**

To access the server it is necessary to know the user and the password of the site.

Name	User	Password
Ubuntu 20.04	uni	uni
PHPMyAdmin	Administrador	admin123
PHPMyAdmin	root	admin123
PHPMyAdmin	Markel	contraseña
PHPMyAdmin	Raul	contraseña



PHPMyAdmin	Mikel	contraseña
PHPMyAdmin	Ander	contraseña
PHPMyAdmin	Ivan	contraseña

The users Admin and root have all the privileges on the DB. The other users of PHPMyAdmin that are employee-users only could access for change de information of the DB.

## **Access Website**

To access the WebSite the information of the users and employees are saved in the DB, in users and employees tables.



# **Bibliography**

https://www.apachefriends.org/es/download.html

https://netbeans.apache.org/download/index.html

https://www.jetbrains.com/es-es/pycharm/download/

https://www.python.org/downloads/

http://dia-installer.de/

https://mariadb.com/kb/en/configuring-mariadb-for-remote-client-access/

https://docs.oracle.com/javase/7/docs/api/

https://www.jfree.org/jfreechart/javadoc/index.html

https://www.w3schools.com/

https://getbootstrap.com/

