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UNIVERSIDAD TECNOLÓGICA DE TIJUANA

TSU TI DESARROLLO DE SOFTWARE

TERCER AVANCE DEL PROYECTO

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EN LA MATERIA DE: PROGRAMACIÓN WEB

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GRUPO: 3-D

Tijuana, Baja California a 03 de Diciembre del 2024

## **Description**

The project aims to optimize inventory management, specifically in the field of mobile equipment manufacturing. It offers precise control over the product life cycle, covering everything from the receipt of raw materials to the final release of the product. The system is designed to generate accurate reports on inventory status and track all related movements.

## **Objective**

Develop a system that optimizes inventory management in mobile equipment manufacturing by providing precise control of the product life cycle and generating accurate inventory reports, excluding sales and distribution processes.

## **Functionality**

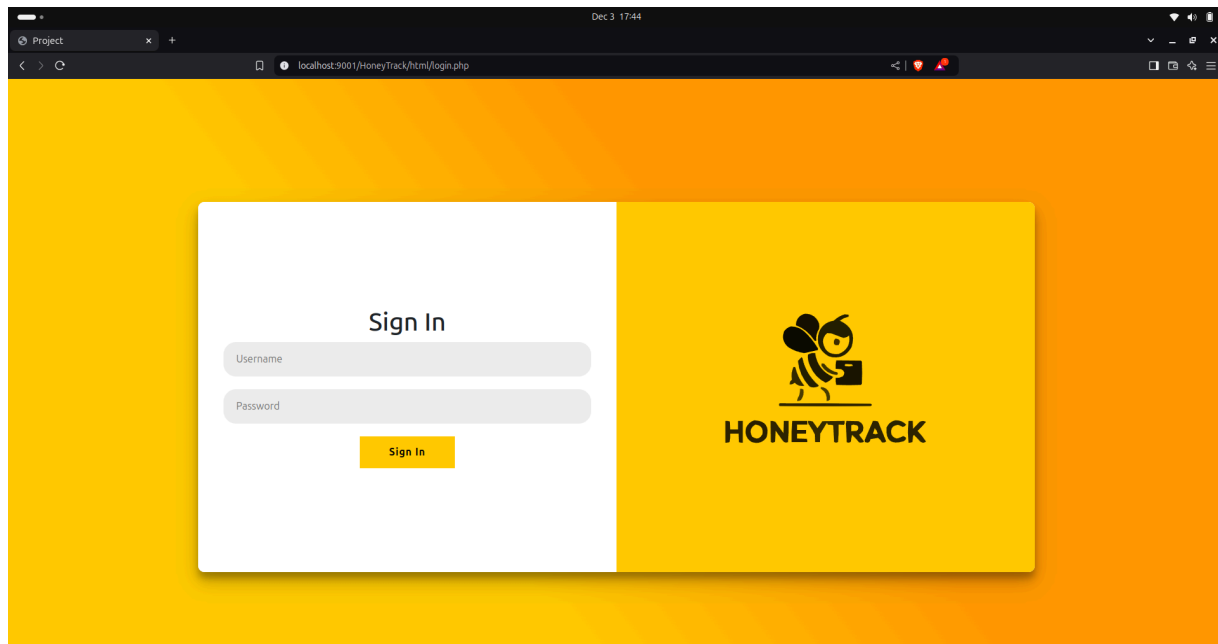
The following document provides a concise overview of the project's functionality through a series of system screenshots. Each module is verified and accompanied by a detailed explanation. Additionally, the document includes a demonstration of the database server and web server setup, showcasing the comprehensive functionality of the web application.

## Functionality demonstration

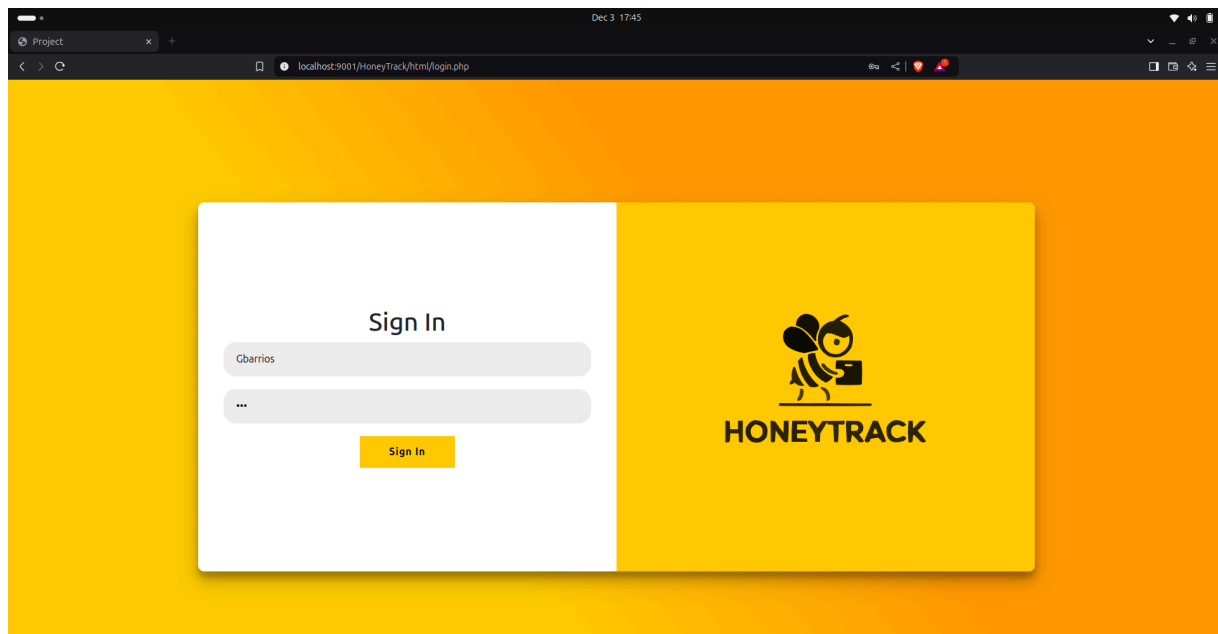
### a) Access Control

A secure login system.

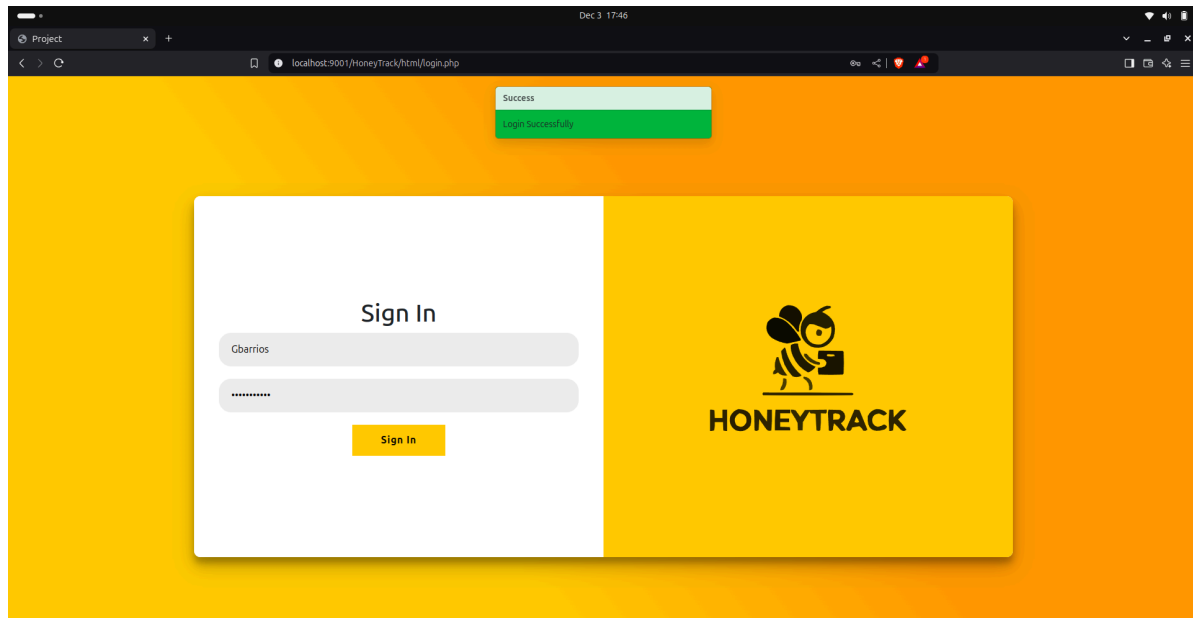
It shows the Login screen, where employees will be able to log in.



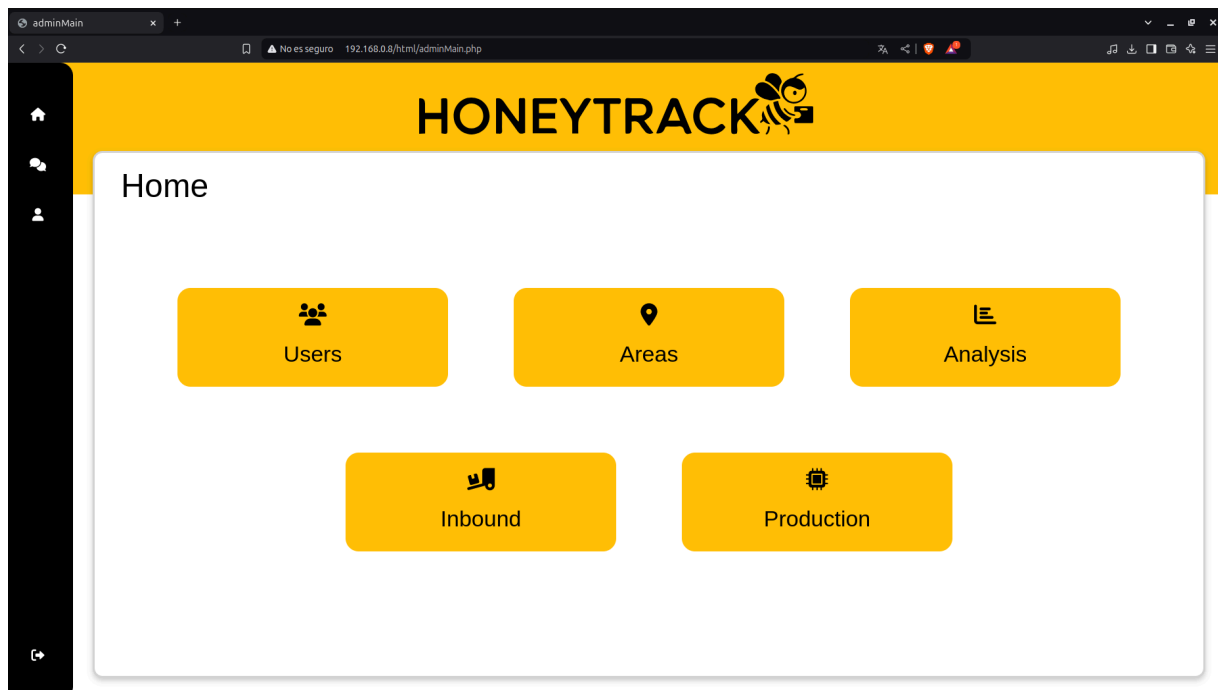
In this picture we can see that an employee is logging In.



And finally, if the employees are registered into the system, they will be able to log in.



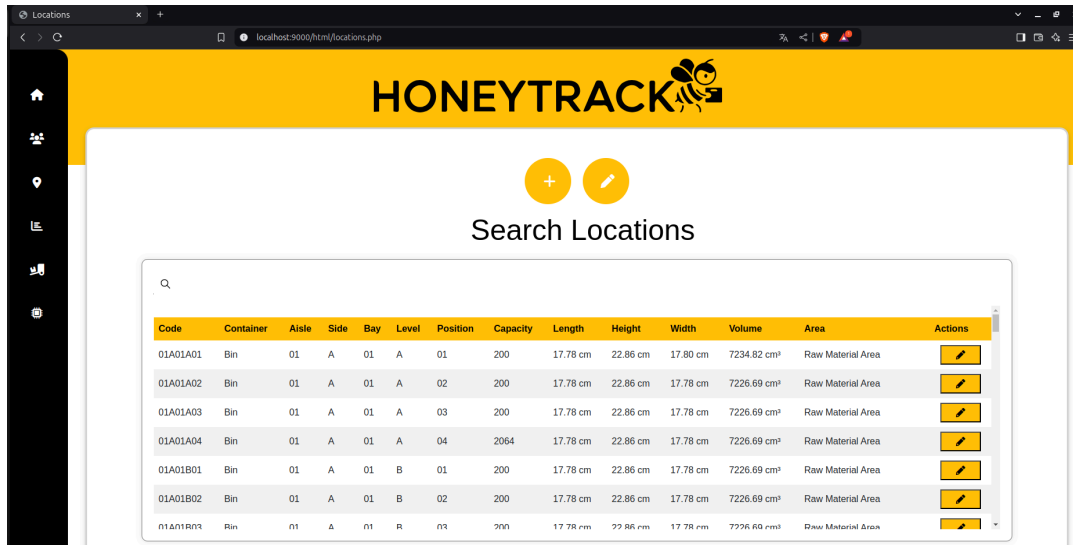
Once the user logs in, this is the main menu with different options to do.



## b) Location Management

The system allows the registration, editing, viewing, and deletion of the physical locations where products are stored in the inventory.

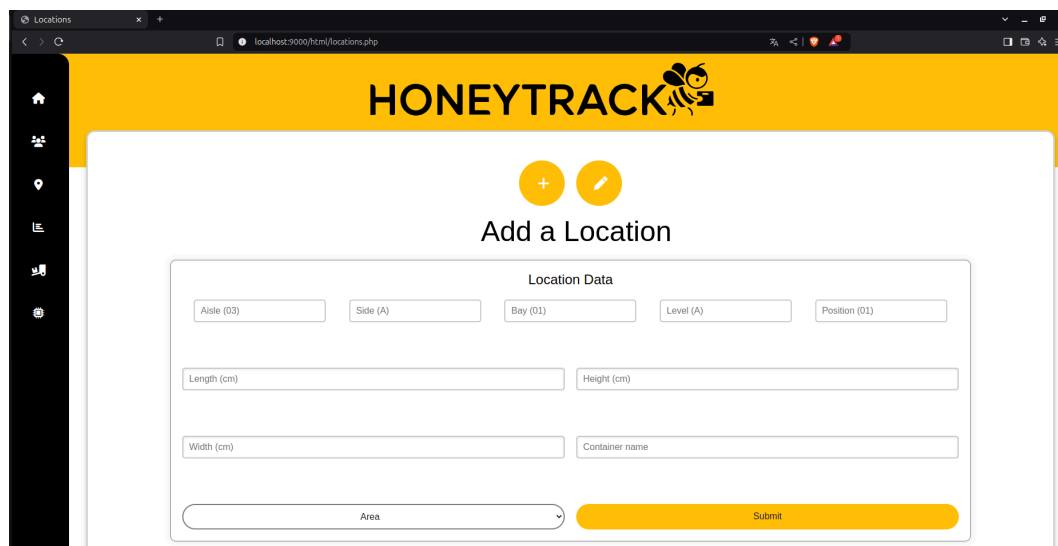
This is the Locations screen where you can see all the locations in the warehouse. Here, you are able to search for specific locations, create new locations or edit existing ones.



The screenshot shows the HONEYTRACK web application interface. At the top, there's a yellow header with the HONEYTRACK logo. Below the header, there are two circular buttons: a plus sign (+) for adding a new location and a pencil icon for editing. The main section is titled "Search Locations" and contains a search bar and a table of locations.

Code	Container	Aisle	Side	Bay	Level	Position	Capacity	Length	Height	Width	Volume	Area	Actions
01A01A01	Bin	01	A	01	A	01	200	17.78 cm	22.86 cm	17.80 cm	7234.82 cm³	Raw Material Area	
01A01A02	Bin	01	A	01	A	02	200	17.78 cm	22.86 cm	17.78 cm	7226.69 cm³	Raw Material Area	
01A01A03	Bin	01	A	01	A	03	200	17.78 cm	22.86 cm	17.78 cm	7226.69 cm³	Raw Material Area	
01A01A04	Bin	01	A	01	A	04	2064	17.78 cm	22.86 cm	17.78 cm	7226.69 cm³	Raw Material Area	
01A01B01	Bin	01	A	01	B	01	200	17.78 cm	22.86 cm	17.78 cm	7226.69 cm³	Raw Material Area	
01A01B02	Bin	01	A	01	B	02	200	17.78 cm	22.86 cm	17.78 cm	7226.69 cm³	Raw Material Area	
01A01B03	Bin	01	A	01	B	03	200	17.78 cm	22.86 cm	17.78 cm	7226.69 cm³	Raw Material Area	

When you click the + button, it displays the Add a Location screen where you can fill all the fields of a location. Once you finish filling the fields, press the Submit button to insert the new register into the database. Then you can use the new location to store raw materials or finished products depending on the assigned area.



The screenshot shows the "Add a Location" screen in the HONEYTRACK application. It features a yellow header with the HONEYTRACK logo. Below the header, there are two circular buttons: a plus sign (+) for adding a new location and a pencil icon for editing. The main section is titled "Add a Location" and contains a form for entering location data.

Location Data

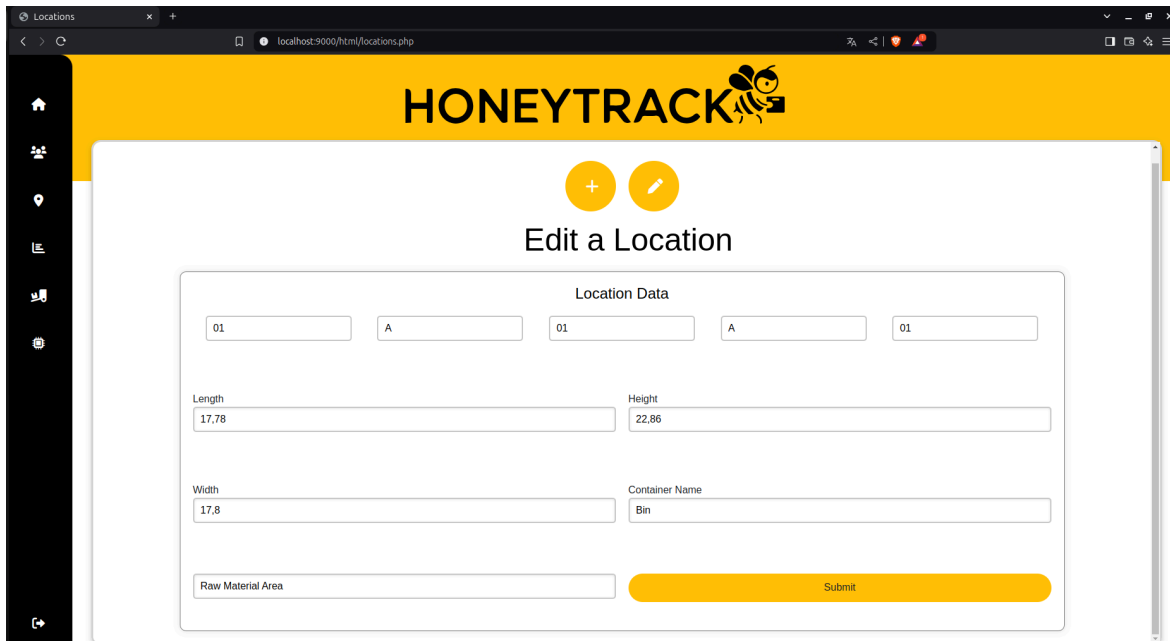
Aisle (03) Side (A) Bay (01) Level (A) Position (01)

Length (cm) Height (cm)

Width (cm) Container name

Area Submit

If the location information is wrong, you can edit it with the yellow pencil action button. You can change the length, height, width and container name.

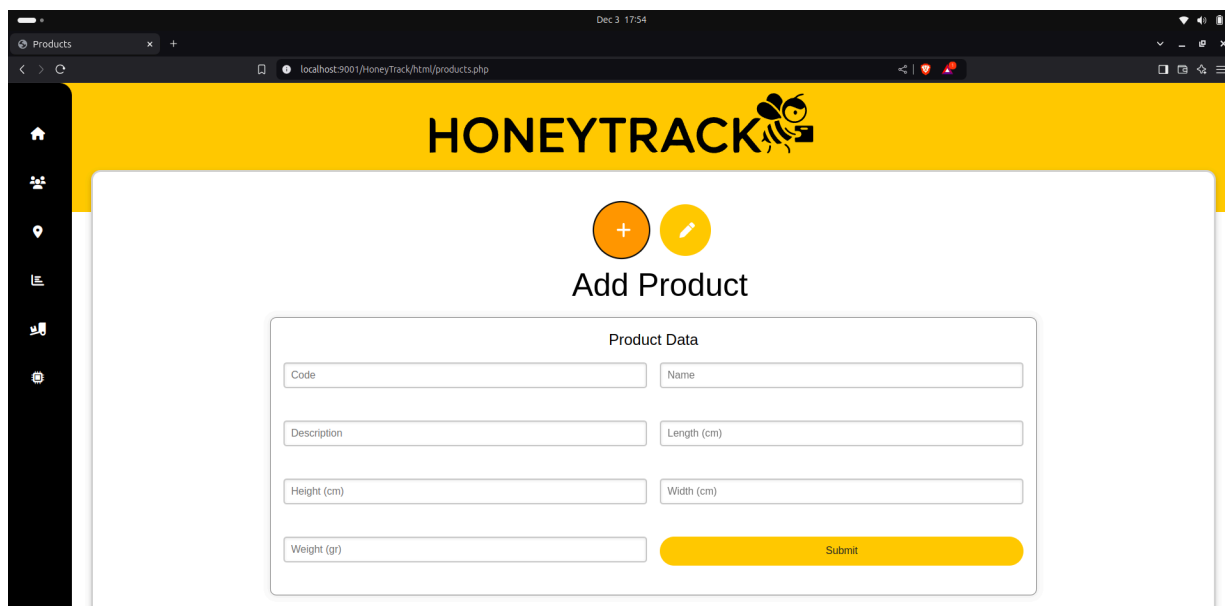


The screenshot shows a web browser window with the URL `localhost:9000/html/locations.php`. The page has a yellow header with the 'HONEYTRACK' logo and a black sidebar with navigation icons. The main content area is titled 'Edit a Location' and features a form titled 'Location Data'. The form contains several input fields: three small text boxes at the top (containing '01', 'A', and '01'), a 'Length' field (17,78), a 'Height' field (22,86), a 'Width' field (17,8), a 'Container Name' field (Bin), and a 'Raw Material Area' field. A yellow 'Submit' button is located at the bottom right of the form.

### c) Final Product Management

The system allows the entry, registration, modification, and viewing of products, including details such as product code, price, date received, and location in the warehouse.

Here, the employee will be able to create a new final product.



The screenshot shows a web browser window with the URL `localhost:9001/honeyTrack/html/products.php`. The page has a yellow header with the 'HONEYTRACK' logo and a black sidebar with navigation icons. The main content area is titled 'Add Product' and features a form titled 'Product Data'. The form contains several input fields: 'Code', 'Name', 'Description', 'Length (cm)', 'Height (cm)', 'Width (cm)', and 'Weight (gr)'. A yellow 'Submit' button is located at the bottom right of the form.

The employee will be able to write and save all data about the final product into this module.

The screenshot shows a web browser window with the URL `localhost:9001/HoneyTrack/html/products.php`. The page has a yellow header with the 'HONEYTRACK' logo and a bee icon. A dark sidebar on the left contains navigation icons. The main content area is titled 'Add Product' and features a 'Product Data' form. The form contains several input fields: 'PLAY5' and 'PlayStation 5' in the first row, 'Next Generation VideoGames Console' and '7' in the second row, '8' and '10' in the third row, and '120' in the fourth row. A yellow 'Submit' button is located at the bottom right of the form.

Here, we can see that the insert of the product was successful.

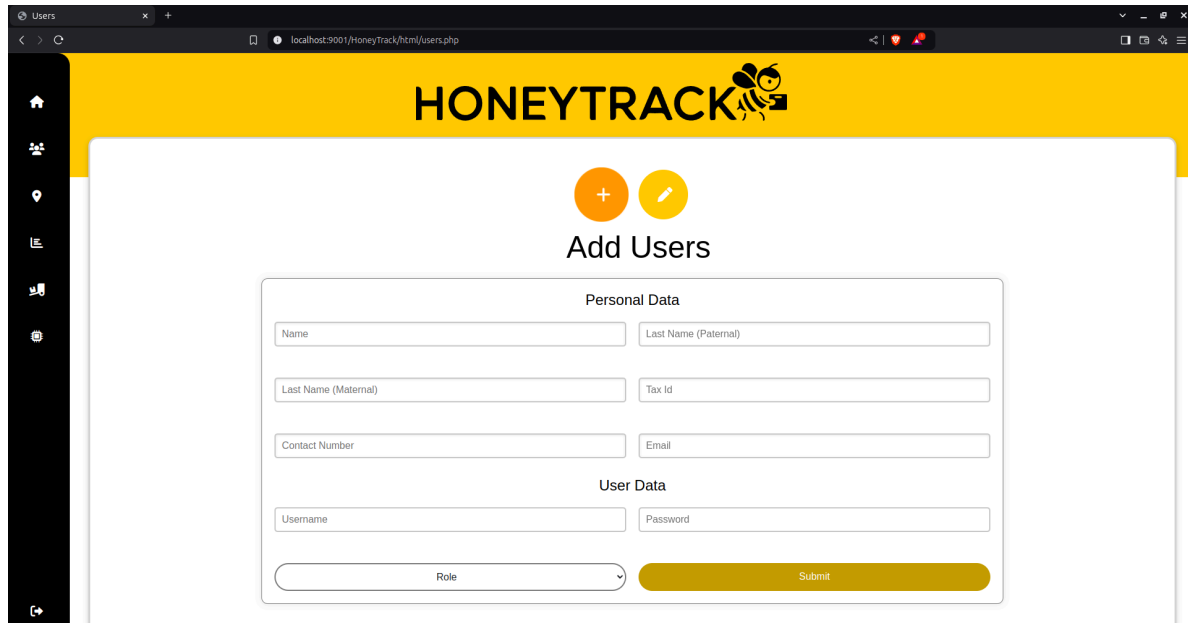
The screenshot shows the 'Search Products' page of the HoneyTrack application. It features a search bar at the top and a table listing various products. The table has columns for Code, Name, Description, Net Cost, Length, Height, Width, Volume, Weight, Stock, and Action. The 'PLAY5' product, which was added in the previous step, is visible at the bottom of the list.

Code	Name	Description	Net Cost	Length	Height	Width	Volume	Weight	Stock	Action
GS24P	Galaxy S24++	High-end smartphone with large screen	\$14940.00	16.10 cm	7.80 cm	0.80 cm	100.46 cm³	200.00 gr	20	
GS24U	Galaxy S24 Ultra	Smartphone with advanced camera, 5G	\$18810.00	16.50 cm	7.80 cm	0.90 cm	115.83 cm³	228.00 gr	16	
GYS24	Galaxy S24	High-end smartphone, 5G	\$12870.00	15.60 cm	7.30 cm	0.80 cm	91.10 cm³	168.00 gr	0	
GZFL6	Galaxy Z Flip 6	Compact foldable smartphone	\$16670.00	8.50 cm	7.20 cm	1.00 cm	61.20 cm³	187.00 gr	18	
GZFO6	Galaxy Z Fold 6	Foldable smartphone with flexible screen	\$21090.00	16.70 cm	7.80 cm	1.30 cm	169.34 cm³	280.00 gr	12	
PLAY5	PlayStation 5	Next Generation VideoGames Console	\$0.00	7.00 cm	8.00 cm	10.00 cm	560.00 cm³	120.00 gr	0	

#### d) Employee Management

The system allows the creation of users through employee registration, includes identification data, and allows the user to access the system. It also allows the viewing, modification, and deletion of these records.

Here, the administrator will be able to add new users into the system with different roles.



The screenshot shows a web browser window with the URL `localhost:9001/HoneyTrack/html/users.php`. The page has a yellow header with the "HONEYTRACK" logo and a black sidebar with navigation icons. The main content area is titled "Add Users" and contains a form with two sections: "Personal Data" and "User Data".

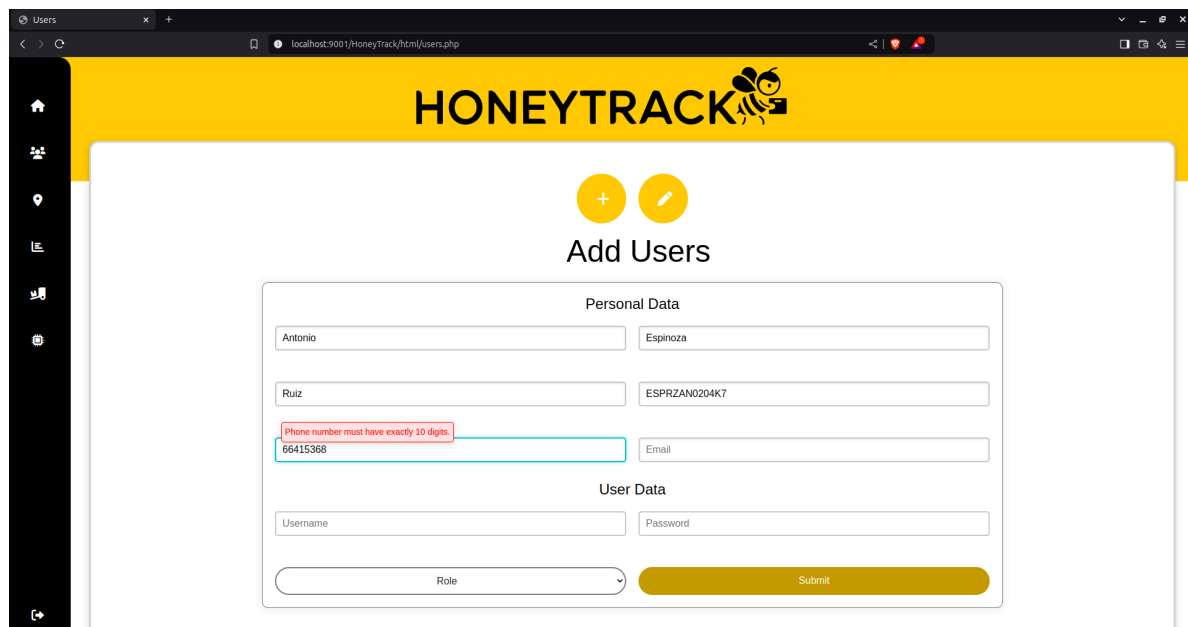
**Personal Data**

- Name:
- Last Name (Paternal):
- Last Name (Maternal):
- Tax Id:
- Contact Number:
- Email:

**User Data**

- Username:
- Password:
- Role:
- Submit:

Here, we can see how to add a new user, writing all required data into the labels.



This screenshot shows the same "Add Users" form, but with sample data entered. A red error message is visible above the Contact Number field.

**Personal Data**

- Name:
- Last Name (Paternal):
- Last Name (Maternal):
- Tax Id:
- Contact Number:
- Email:

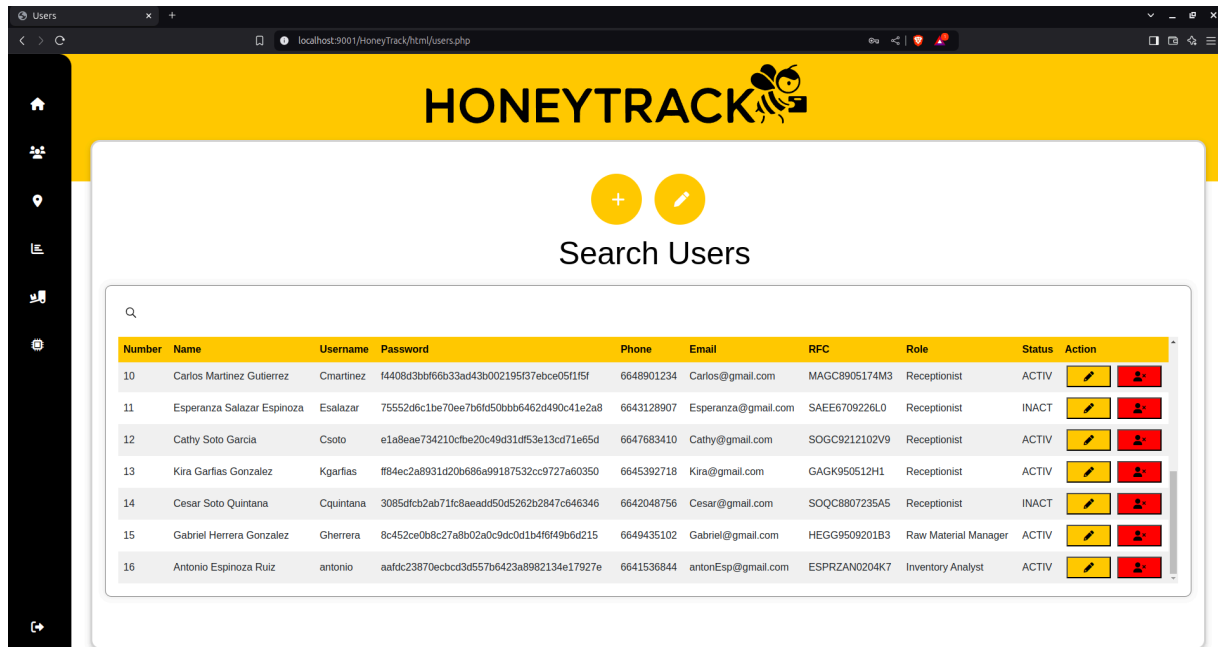
**User Data**

- Username:
- Password:
- Role:
- Submit:

Phone number must have exactly 10 digits.



And finally here we can see that the employee was registered successfully.

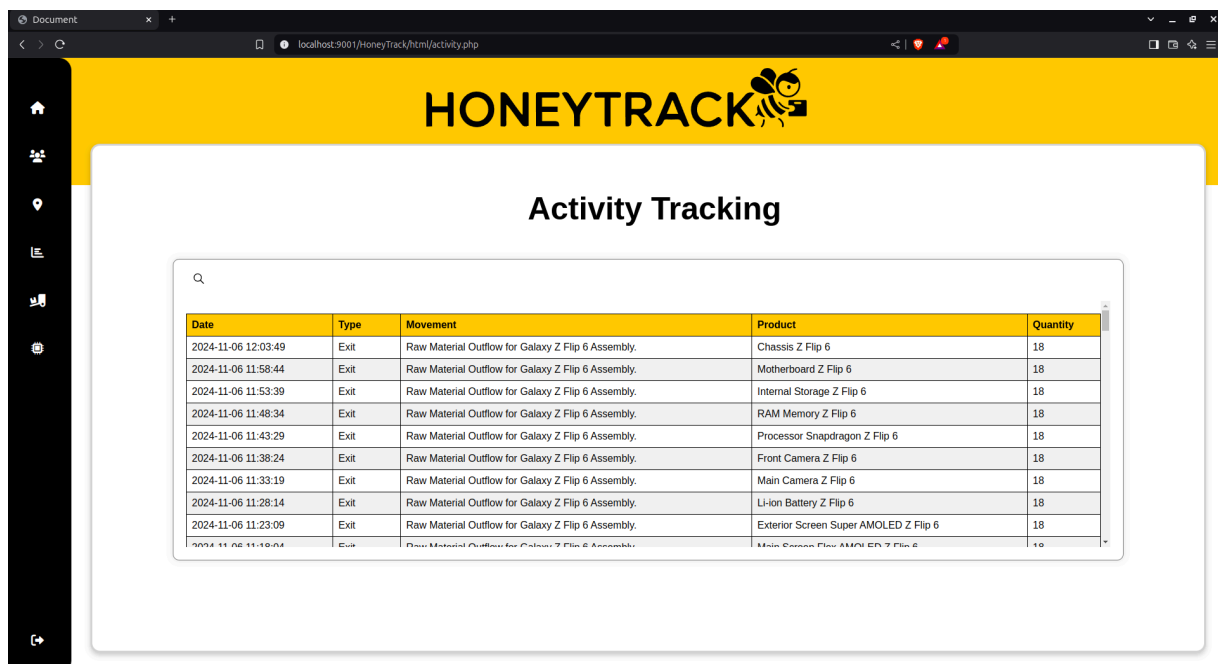


Number	Name	Username	Password	Phone	Email	RFC	Role	Status	Action
10	Carlos Martinez Gutierrez	Cmartinez	I408d3btf66b33ad43b00219537ebce05f1f5f	6648901234	Carlos@gmail.com	MAGC8905174M3	Receptionist	ACTIV	[Edit] [Delete]
11	Esperanza Salazar Espinoza	Esalazar	75552d6c1be70ee7b6fd50bb6462d490c41e2a8	6643128907	Esperanza@gmail.com	SAEE6709226L0	Receptionist	INACT	[Edit] [Delete]
12	Cathy Soto Garcia	Csoto	e1a8eae734210cfe20c49d31d53e13cd71e65d	6647683410	Cathy@gmail.com	SOGC9212102V9	Receptionist	ACTIV	[Edit] [Delete]
13	Kira Garlas Gonzalez	Kgarlas	#B4ec2a8931d20b686a9187532cc9727a60350	6645392718	Kira@gmail.com	GAGK950512H1	Receptionist	ACTIV	[Edit] [Delete]
14	Cesar Soto Quintana	Cquintana	3085dfcb2ab71fc8aeadd50d5262b2847c646346	6642048756	Cesar@gmail.com	SOQC8807235A5	Receptionist	INACT	[Edit] [Delete]
15	Gabriel Herrera Gonzalez	Gherrer	8c452ce0b8c27a8b02a0c9dc0d1b4f6f49b6d215	6649435102	Gabriel@gmail.com	HEGG9509201B3	Raw Material Manager	ACTIV	[Edit] [Delete]
16	Antonio Espinoza Ruiz	antonio	aafdc23870ecbcd3d557b6423a8982134e17927e	6641536844	antonEsp@gmail.com	ESPRZAN0204K7	Inventory Analyst	ACTIV	[Edit] [Delete]

### e) Movement Management

The system allows the registration and viewing of each action performed by users. Movements are recorded with the type of movement, time of movement, and the user who carries it out.

In this module, we can see different activities that happen in the warehouse.

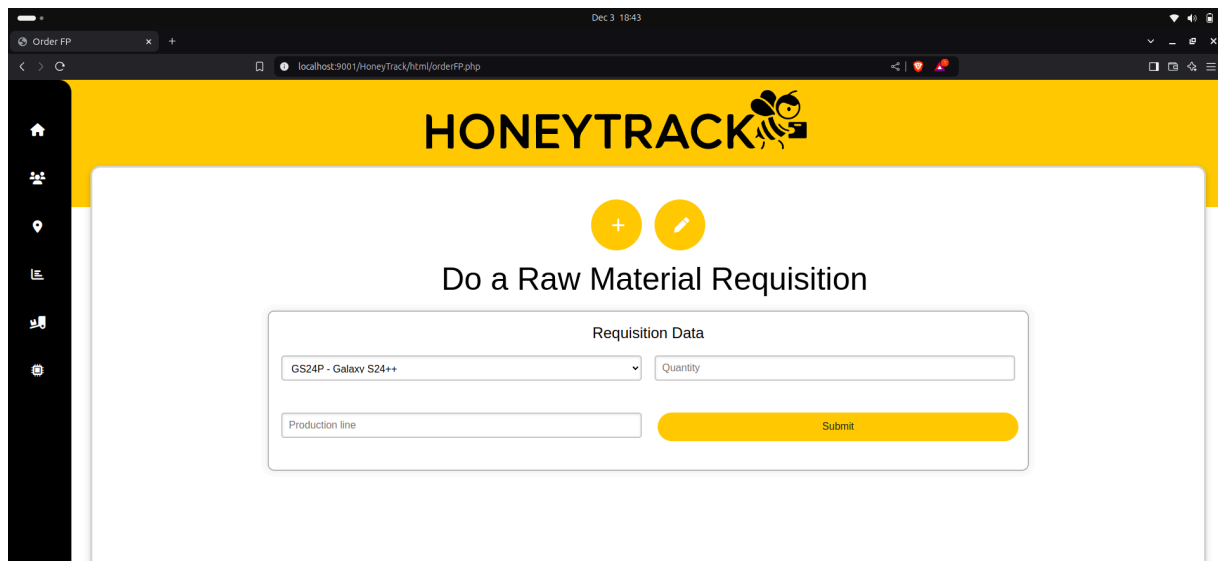


Date	Type	Movement	Product	Quantity
2024-11-06 12:03:49	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	Chassis Z Flip 6	18
2024-11-06 11:58:44	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	Motherboard Z Flip 6	18
2024-11-06 11:53:39	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	Internal Storage Z Flip 6	18
2024-11-06 11:48:34	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	RAM Memory Z Flip 6	18
2024-11-06 11:43:29	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	Processor Snapdragon Z Flip 6	18
2024-11-06 11:38:24	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	Front Camera Z Flip 6	18
2024-11-06 11:33:19	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	Main Camera Z Flip 6	18
2024-11-06 11:28:14	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	Li-Ion Battery Z Flip 6	18
2024-11-06 11:23:09	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	Exterior Screen Super AMOLED Z Flip 6	18
2024-11-06 11:18:04	Exit	Raw Material Outflow for Galaxy Z Flip 6 Assembly.	Main Screen Flex AMOLED Z Flip 6	18

## f) Raw Material Requests

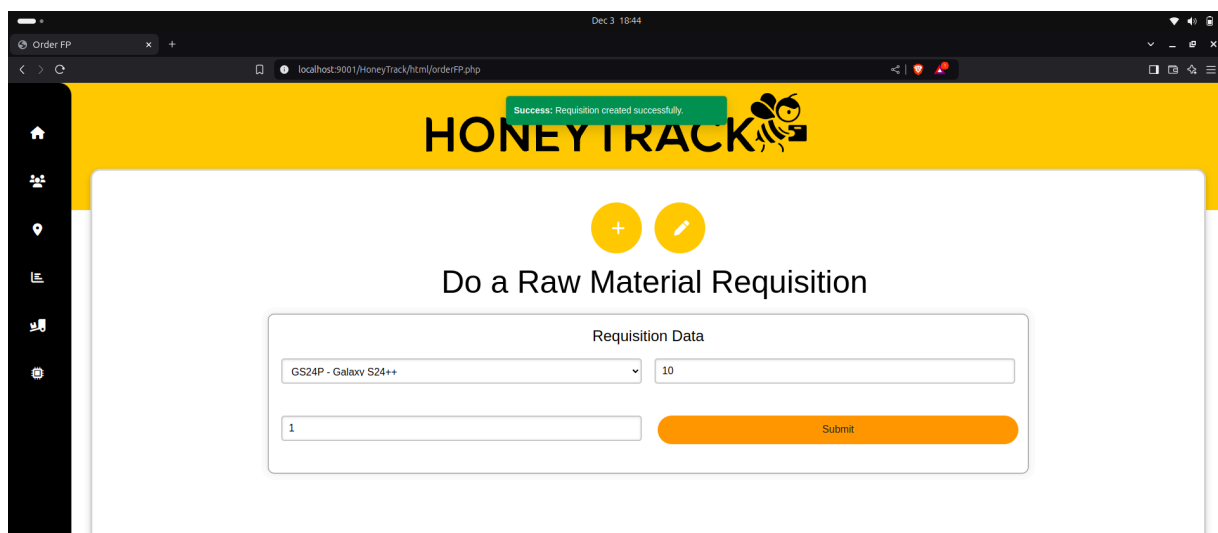
The system allows the assembly area to request the necessary components, checks if sufficient quantities are available, prioritizes based on what is needed most, and maintains a request history. It also notifies the purchasing department when more components are required.

Here, production will be able to make a requisition of raw material necessary to make a final product.



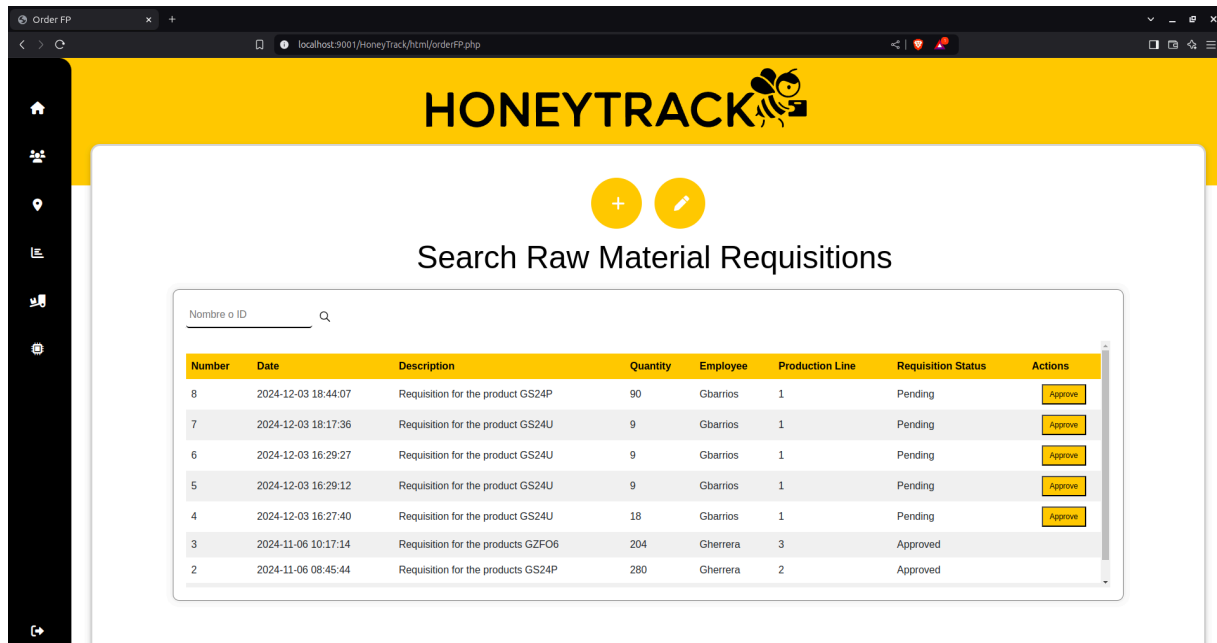
The screenshot shows a web browser window with the URL `localhost:9001/HoneyTrack/html/orderFP.php`. The page has a yellow header with the 'HONEYTRACK' logo and a black sidebar with navigation icons. The main content area is white and contains a form titled 'Do a Raw Material Requisition'. The form has a 'Requisition Data' section with a dropdown menu showing 'GS24P - Galaxy S24++', a 'Quantity' input field, and a 'Production line' input field. A yellow 'Submit' button is at the bottom right of the form.

Production line makes the requisition with all data that the warehouse needs to be able to send the material.



The screenshot shows the same web browser window as before, but with a green success message at the top: 'Success: Requisition created successfully.' The form is now filled out with 'GS24P - Galaxy S24++' in the dropdown, '10' in the 'Quantity' field, and '1' in the 'Production line' field. The 'Submit' button is now orange.

Once the requisition is made, it will appear in this list where the user can approve the requisition to decrease the raw material stock and increase the finished product stock.



### Search Raw Material Requisitions

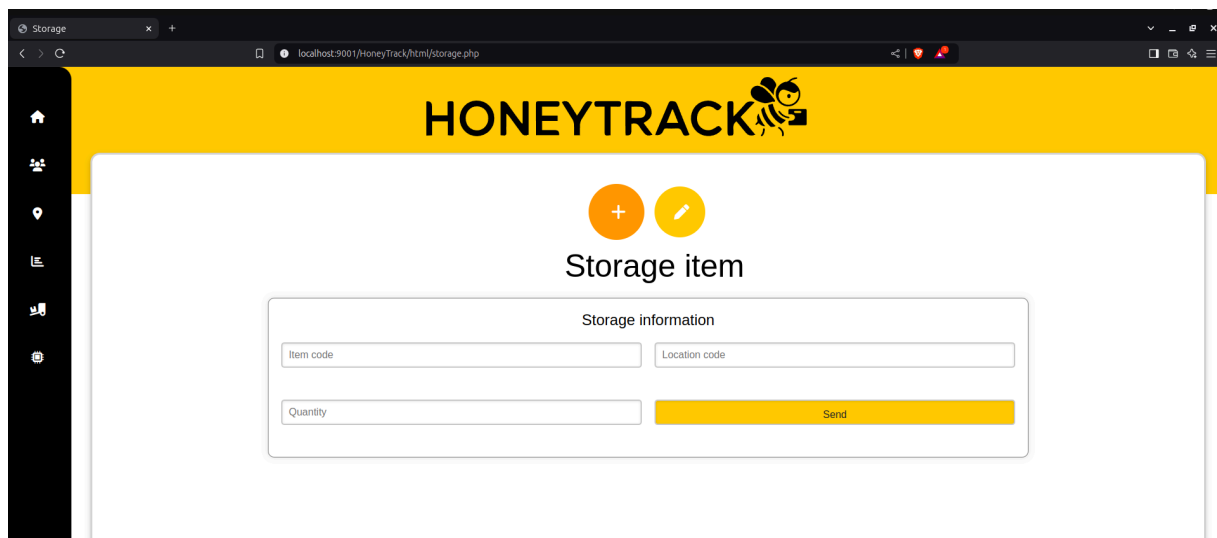
Nombre o ID

Number	Date	Description	Quantity	Employee	Production Line	Requisition Status	Actions
8	2024-12-03 18:44:07	Requisition for the product GS24P	90	Gbarrios	1	Pending	<button>Approve</button>
7	2024-12-03 18:17:36	Requisition for the product GS24U	9	Gbarrios	1	Pending	<button>Approve</button>
6	2024-12-03 16:29:27	Requisition for the product GS24U	9	Gbarrios	1	Pending	<button>Approve</button>
5	2024-12-03 16:29:12	Requisition for the product GS24U	9	Gbarrios	1	Pending	<button>Approve</button>
4	2024-12-03 16:27:40	Requisition for the product GS24U	18	Gbarrios	1	Pending	<button>Approve</button>
3	2024-11-06 10:17:14	Requisition for the products GZFO6	204	Gherrer	3	Approved	
2	2024-11-06 08:45:44	Requisition for the products GS24P	280	Gherrer	2	Approved	

## g) Inventory Management

The system provides tools to track inventory in real-time, displays the quantity of products, and allows users to search for their locations and move them if necessary. Movement analysis is conducted to improve tracking.

Here, we will be able to insert a product or material into a location in the warehouse.



### Storage item

Storage information

Item code  Location code

Quantity  Send

We add a material into a location with its quantity.

Success: Storage created successfully.

## HONEYTRACK

### Storage item

Storage information

Item: PES24 Location: 01B02A02 Quantity: 10

Send

Finally, we see all the locations with their material or product.

## HONEYTRACK

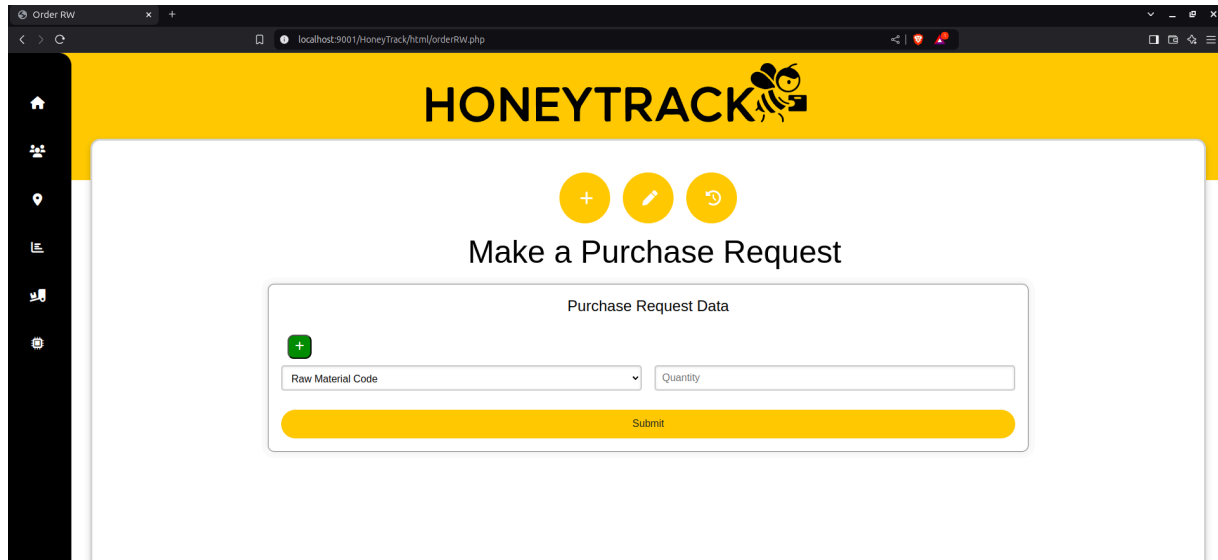
### Search Storage

Location	Area	Item	Quantity	Description
01A03C03	Raw Material Area	CAZ6F	62	Storage of CFZ6F inside the warehouse
01A03C04	Raw Material Area	AIF6P	62	Storage of AIF6P inside the warehouse
01A04A01	Raw Material Area	PBZ6F	62	Storage of PBZ6F inside the warehouse
01A04B01	Raw Material Area	CCZ6P	62	Storage of CCZ6P inside the warehouse
01B02A02	Raw Material Area	PES24	10	Raw Material: Processor Exynos S24
02A01A01	Finished Products Area	GS24P	20	Storage of GS24P inside the warehouse
02A01A02	Finished Products Area	GZFL6	18	Storage of GZFL6 inside the warehouse
02A01B01	Finished Products Area	GS24U	16	Storage of GS24U inside the warehouse
02A01C01	Finished Products Area	GZFO6	12	Storage of GZFO6 inside the warehouse

## h) Purchase Management

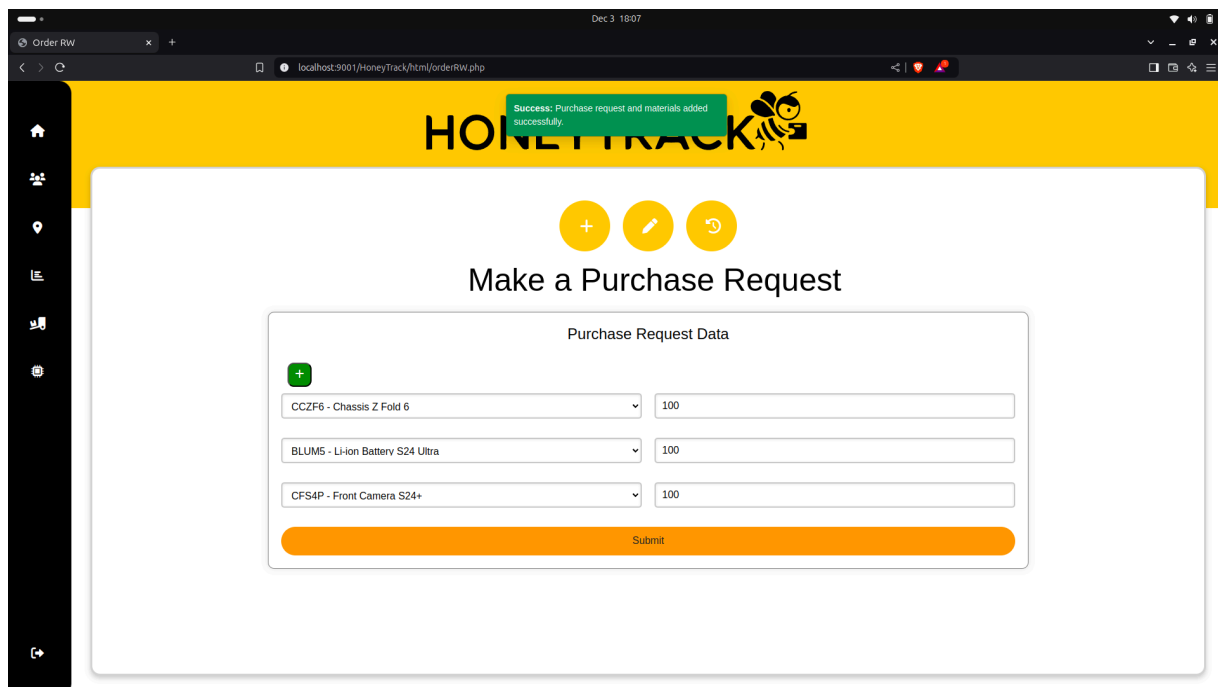
The system includes a module to handle purchasing information, facilitates communication with suppliers, and records details of acquisitions.

In this module we can make a purchase request of raw materials, to order in case there is not enough stock.



The screenshot shows a web browser window with the URL `localhost:5001/HoneyTrack/html/orderRW.php`. The page has a yellow header with the "HONEYTRACK" logo and a black sidebar with navigation icons. The main content area is white and contains a form titled "Make a Purchase Request". Above the form are three yellow circular icons: a plus sign, a pencil, and a refresh symbol. The form itself is titled "Purchase Request Data" and contains a green plus icon in a square, a dropdown menu for "Raw Material Code", and a text input field for "Quantity". Below these fields is a yellow "Submit" button.

Here, the employee is making a purchase, ordering different materials that he needs.



The screenshot shows the same web browser window as before, but now the form is filled with data. A green success message "Success: Purchase request and materials added successfully." is displayed at the top. The form is titled "Make a Purchase Request" and contains a table with three rows of data. Each row has a green plus icon in a square, a dropdown menu for the material name, and a text input field for the quantity. The materials listed are "CCZF6 - Chassis Z Fold 6", "BLUM5 - Li-ion Battery S24 Ultra", and "CFS4P - Front Camera S24+". The quantities are all set to "100". Below the table is an orange "Submit" button.

Material	Quantity
CCZF6 - Chassis Z Fold 6	100
BLUM5 - Li-ion Battery S24 Ultra	100
CFS4P - Front Camera S24+	100

The screenshot displays the HoneyTrack web application interface. At the top, there's a yellow header with the 'HONEYTRACK' logo and a bee icon. Below the header, the main content area is white. It features a title 'Purchase Request In Progress' centered, preceded by three yellow circular icons containing a plus, a pencil, and a refresh symbol. Below the title is a search bar with a magnifying glass icon. Underneath the search bar is a table with the following structure:

No. Requirement	Date Application Purchase	Quantity Raw Material	Subtotal	IVA	Total	Empleado	Application Status	Action
4	2024-12-03 18:07:22	300	\$176400.00	\$33600.00	\$210000.00	Gbarrios	In Process	<a href="#">Add</a> <a href="#">Accept</a>

The table shows a single purchase request in progress. The 'Action' column for this row contains two green buttons labeled 'Add' and 'Accept'.

The screenshot shows the HoneyTrack web application. The header features the HoneyTrack logo (a bee) and the name "HONEYTRACK". Below the header, there are three circular icons: a plus sign (+), a pencil (edit), and a refresh/circular arrow icon. The main section is titled "Purchase Request History". Below this title is a search bar with a magnifying glass icon. Underneath the search bar is a table displaying purchase request history.

No. Requirement	Date Application Purchase	Quantity Raw Material	Subtotal	IVA	Total	Empleado	Application Status
1	2024-11-04 13:00:00	80	\$1029600.00	\$164736.00	\$1194336.00	Gherrera	Accepted
2	2024-11-04 14:15:22	80	\$2700000.00	\$432000.00	\$3132000.00	Gherrera	Accepted
3	2024-11-04 15:02:40	80	\$3020800.00	\$483328.00	\$3504128.00	Gherrera	Accepted

## i) Database

All program data is stored in a database, which updates as new data is inserted or modified.

This is the connection document which connects the web page to the database. It is pretty important that the database “HoneyTrackv2” is installed in the MySQL Server and the “cisco” user is created with the “class” password, too.

```
connection.php X
php > connection.php
1  <?php
2      function connectdb() : mysqli{
3          $host = "localhost";
4          $user = "cisco";
5          $password = "class";
6          $database = "HoneyTrackv2";
7
8          $db = mysqli_connect($host,$user,$password,$database);
9          if(!$db){
10             echo "Connection failed";
11         }
12         return $db;
13     }
14  ?>
```

Every action that needs interaction with the database makes a requisition to this document with the “require” statement. Then, the function “connectdb()” is stored into a variable and finally it can make queries. For example, when the program wants to validate a user to log in.

```
validateLogin.php X
php > validateLogin.php
1  <?php
2  require "../php/connection.php";
3  session_start();
4  $db = connectdb();
5
6  if ($_POST) {
7      $username = $_POST["username"];
8      $password = $_POST["password"];
9      $query = "CALL validateUser('$username', '$password',@role, @msg)";
10     $response = mysqli_query($db, $query);
11
12     $query = "SELECT @role AS role, @msg AS msg";
13     $response = mysqli_query($db, $query);
14 }
```

## j) Ubuntu

To be able to host a web page and share it with multiple users, it needs to be stored in a web server. We decided to use Ubuntu to host the web page.

PHP, MySQL and Apache must be installed in Ubuntu in order to run everything without problems. These programs are installed with the “apt” installation tool.

```
kronos@kronos-HP: ~  
kronos@kronos-HP:~$ php -v  
PHP 8.3.6 (cli) (built: Sep 30 2024 15:17:17) (NTS)  
Copyright (c) The PHP Group  
Zend Engine v4.3.6, Copyright (c) Zend Technologies  
with Zend OPcache v8.3.6, Copyright (c), by Zend Technologies  
kronos@kronos-HP:~$
```

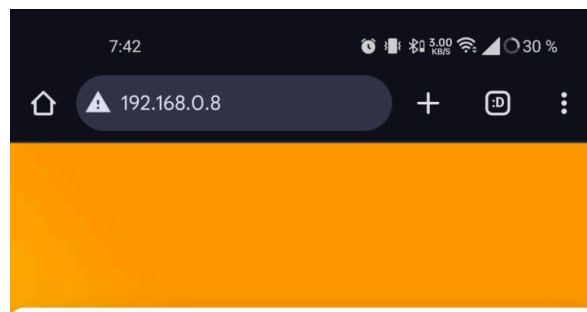
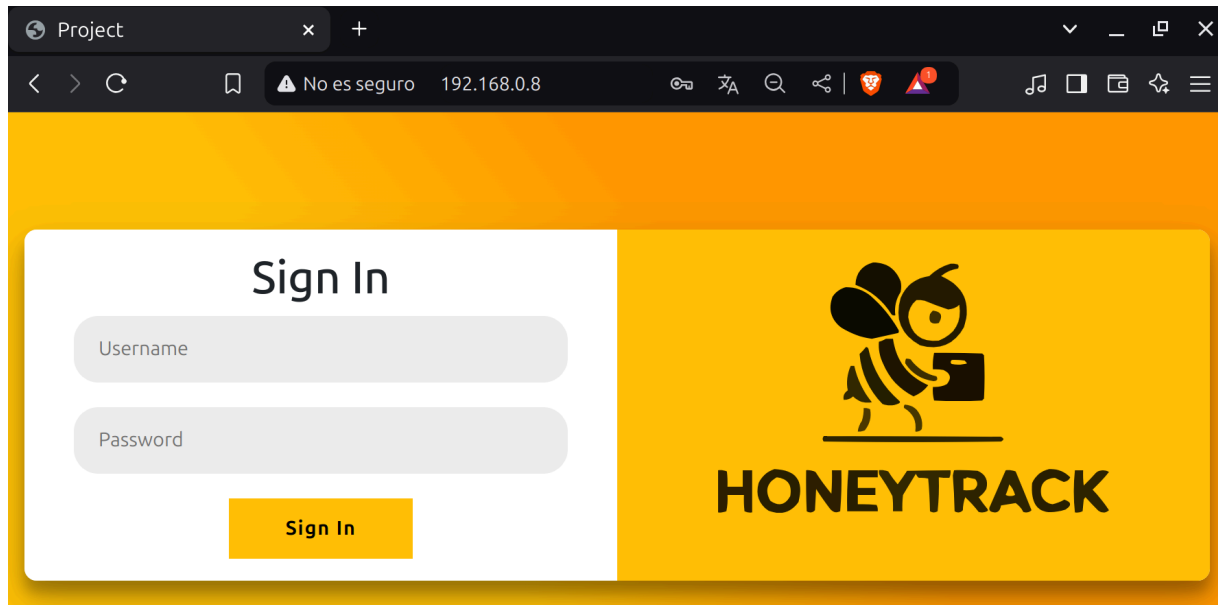
```
kronos@kronos-HP: ~  
kronos@kronos-HP:~$ mysql --version  
mysql Ver 8.0.40-0ubuntu0.24.04.1 for Linux on x86_64 ((Ubuntu))  
kronos@kronos-HP:~$
```

```
kronos@kronos-HP: ~  
kronos@kronos-HP:~$ apache2 -v  
Server version: Apache/2.4.58 (Ubuntu)  
Server built: 2024-10-02T12:40:51  
kronos@kronos-HP:~$
```



### k) Web Server

The web page is stored in an Apache web server which means that you can access from every device as long as you are on the same network. The IP address of the web server is 192.168.0.8, so if you type that address in your device, you will be able to connect to the web page.



**Sign In**

Username

Password

**Sign In**