

Kingdom of Saudi Arabia

Ministry of Education

Imam Abdulrahman bin Faisal University

College of Science and Humanities in Jubail

Computer Science Department



جامعة الإمام عبد الرحمن بن فيصل

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المملكة العربية السعودية

وزارة التعليم

جامعة الإمام عبد الرحمن بن فيصل

كلية العلوم و الدراسات الإنسانية بالجبيل

قسم علوم الحاسوب

**CIS 423 – Web-Based System  
Term 2 – 2022/2023**

For



**CS Year 4, G7**

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4	<b>Zaineb</b>	<b>2180005211</b>	Database in phpMyAdmin.

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## 1. Project Overview

### 1.1 Description

The term "Internet of Things" (**IoT**) refers to items that have sensors, software, and other technologies that enable Internet-based connections to other systems or devices. Smartphones, smart refrigerators, smart watches, smart security sensors, and smart lightbulbs are some of these products. The concept for the project was inspired by the current state of technology, and the store will focus on selling these products. IoT is increasingly being used by organizations across a variety of industries to increase efficiency, enhance customer service, improve decision-making and increase value.

### 1.2 Purpose

Due to the difficulty of providing some smart devices based on the Internet of Things in the Kingdom of Saudi Arabia. We aim to provide these smart devices, sensors and cameras based on the Internet of Things in the Kingdom of Saudi Arabia in a smooth, fast, and secure manner. Here at the **IoT Store**, we work to meet your digital needs.

### 1.3 Objectives

Featuring real-time self-reporting from devices, the Internet of Things (**IoT**) enhances efficiency and provides critical information more quickly than a system that relies on human interaction.

This website's objectives include:

- Providing people with smart products at a competitive price.
- It will facilitate the widespread use of new technology in our daily lives.
- Inform others who are not aware of the Internet of Things (**IoT**) about it.

### 1.4 Definition and Acronyms

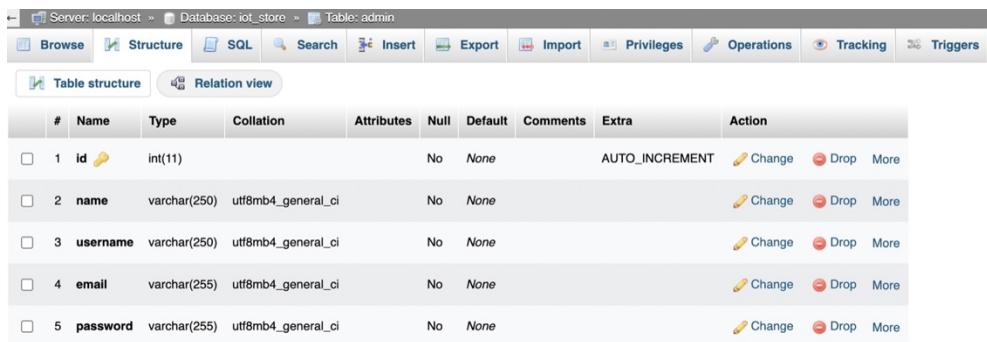
All acronyms used in this report are listed in the below table.

Acronyms	Definitions
<b>IoT</b>	Internet of Things
<b>ID</b>	Identification
<b>CS</b>	Computer Science
<b>G7</b>	Group 7

## 2. Database Design

### 2.1 Tables

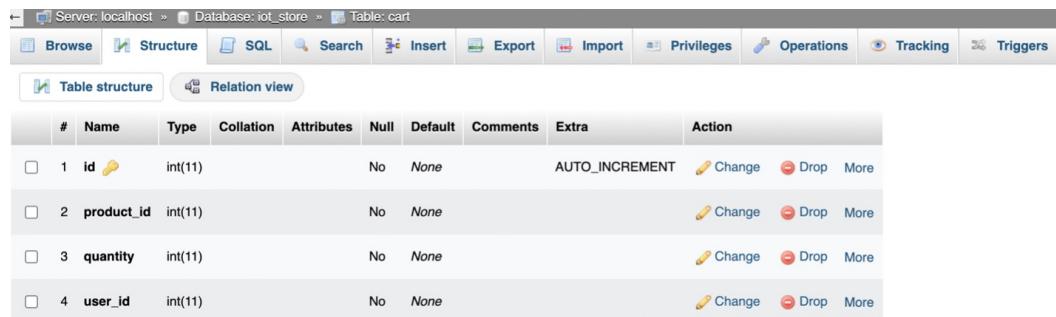
#### 2.1.1 Admin Table



The screenshot shows the 'admin' table structure in MySQL Workbench. The table has five columns: id, name, username, email, and password. The 'id' column is defined as int(11) with AUTO\_INCREMENT, while the other three are varchar(255). All columns have 'None' as their default value.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
2	name	varchar(250)	utf8mb4_general_ci		No	None			Change  Drop  More
3	username	varchar(250)	utf8mb4_general_ci		No	None			Change  Drop  More
4	email	varchar(255)	utf8mb4_general_ci		No	None			Change  Drop  More
5	password	varchar(255)	utf8mb4_general_ci		No	None			Change  Drop  More

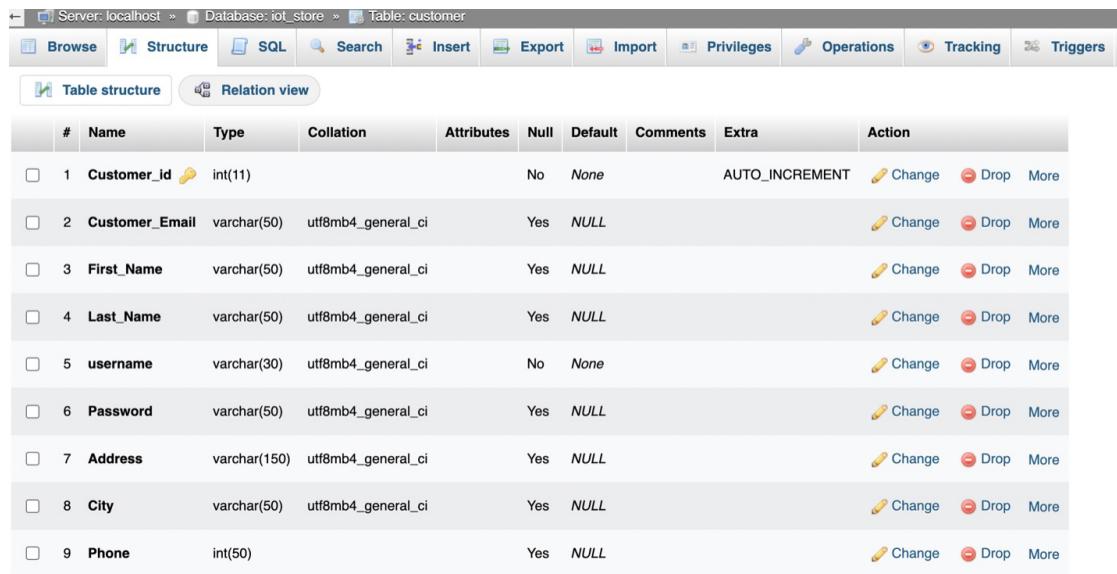
#### 2.1.2 Cart Table



The screenshot shows the 'cart' table structure in MySQL Workbench. The table has four columns: id, product\_id, quantity, and user\_id. The 'id' column is defined as int(11) with AUTO\_INCREMENT, while the other three are int(11). All columns have 'None' as their default value.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
2	product_id	int(11)			No	None			Change  Drop  More
3	quantity	int(11)			No	None			Change  Drop  More
4	user_id	int(11)			No	None			Change  Drop  More

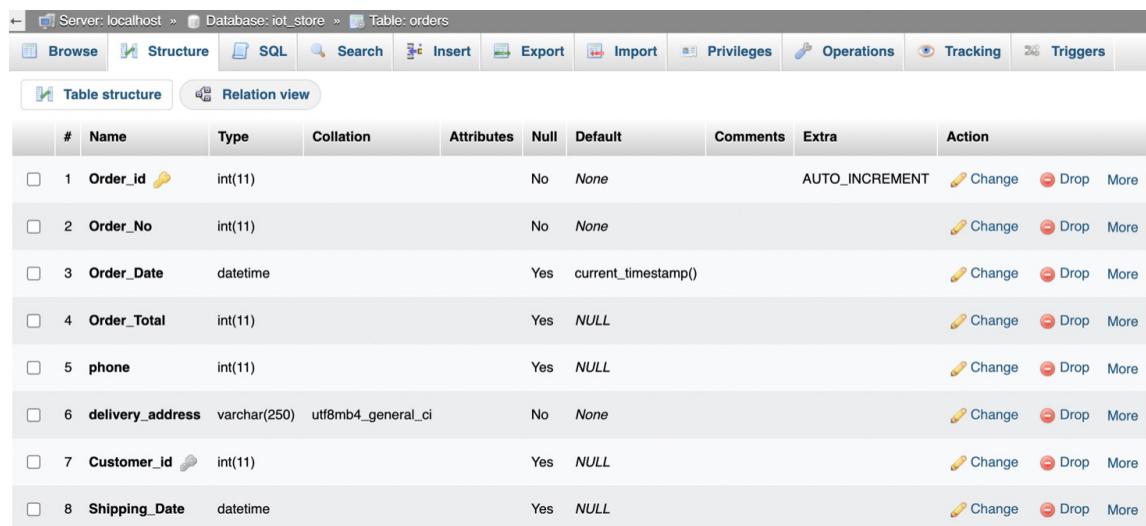
### 2.1.3 Customer Table



The screenshot shows the 'customer' table structure in MySQL Workbench. The table has 9 columns:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	<b>Customer_id</b>	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
2	<b>Customer_Email</b>	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
3	<b>First_Name</b>	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
4	<b>Last_Name</b>	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
5	<b>username</b>	varchar(30)	utf8mb4_general_ci		No	None			Change  Drop  More
6	<b>Password</b>	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
7	<b>Address</b>	varchar(150)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
8	<b>City</b>	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
9	<b>Phone</b>	int(50)			Yes	NULL			Change  Drop  More

### 2.1.4 Orders Table



The screenshot shows the 'orders' table structure in MySQL Workbench. The table has 8 columns:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	<b>Order_id</b>	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
2	<b>Order_No</b>	int(11)			No	None			Change  Drop  More
3	<b>Order_Date</b>	datetime			Yes	current_timestamp()			Change  Drop  More
4	<b>Order_Total</b>	int(11)			Yes	NULL			Change  Drop  More
5	<b>phone</b>	int(11)			Yes	NULL			Change  Drop  More
6	<b>delivery_address</b>	varchar(250)	utf8mb4_general_ci		No	None			Change  Drop  More
7	<b>Customer_Id</b>	int(11)			Yes	NULL			Change  Drop  More
8	<b>Shipping_Date</b>	datetime			Yes	NULL			Change  Drop  More

## 2.1.5 Order\_items Table

The screenshot shows the 'Table structure' view for the 'order\_items' table in the 'iot\_store' database. The table has six columns:

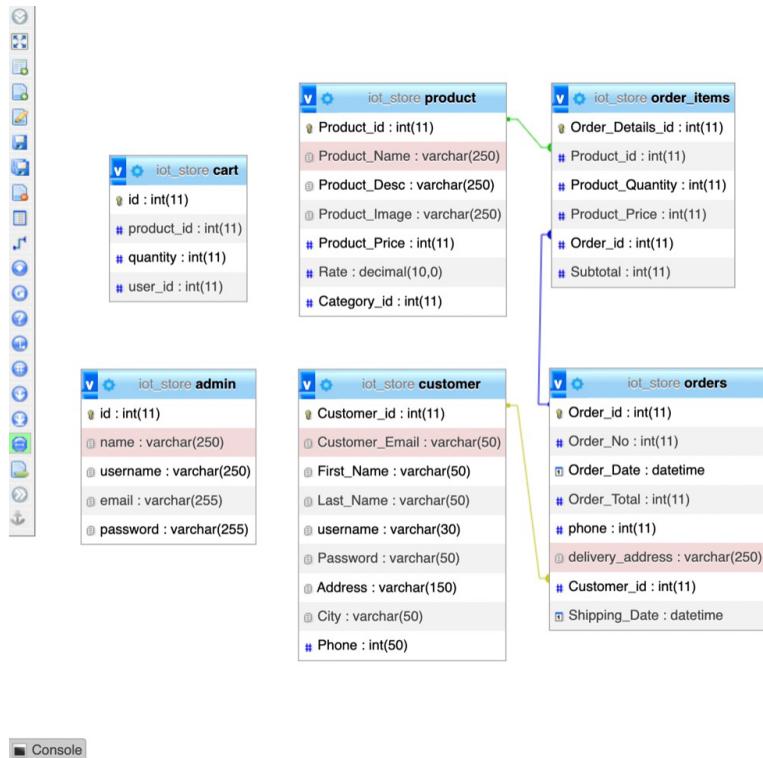
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	Order_Details_Id	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
2	Product_Id	int(11)			Yes	NULL			Change  Drop  More
3	Product_Quantity	int(11)			Yes	NULL			Change  Drop  More
4	Product_Price	int(11)			Yes	NULL			Change  Drop  More
5	Order_Id	int(11)			No	None			Change  Drop  More
6	Subtotal	int(11)			Yes	NULL			Change  Drop  More

## 2.1.6 Product Table

The screenshot shows the 'Table structure' view for the 'product' table in the 'iot\_store' database. The table has seven columns:

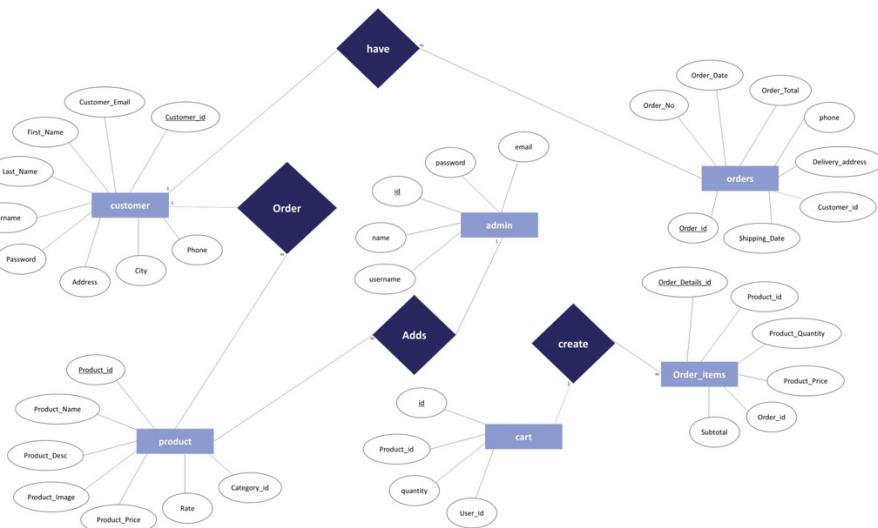
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	Product_Id	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
2	Product_Name	varchar(250)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
3	Product_Desc	varchar(250)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
4	Product_Image	varchar(250)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
5	Product_Price	int(11)			Yes	NULL			Change  Drop  More
6	Rate	decimal(10,0)			Yes	NULL			Change  Drop  More
7	Category_Id	int(11)			Yes	NULL			Change  Drop  More

## 2.2 Relations



Console

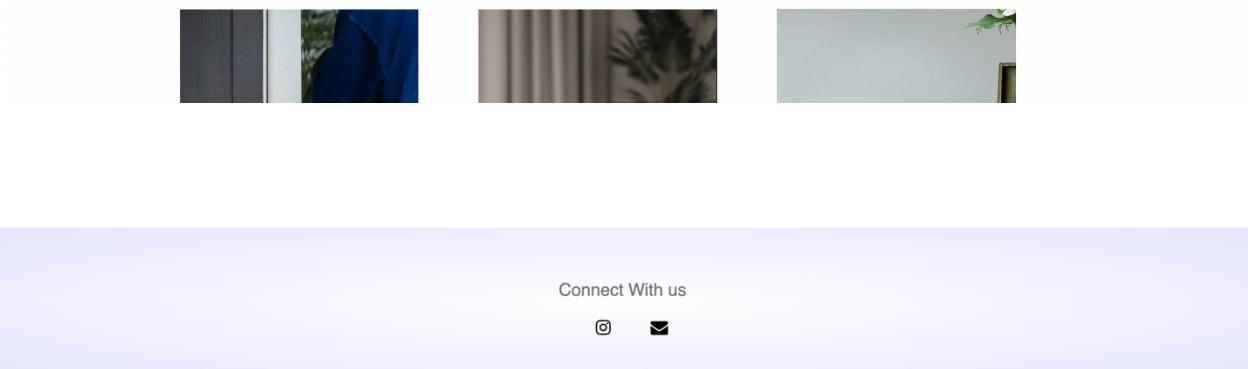
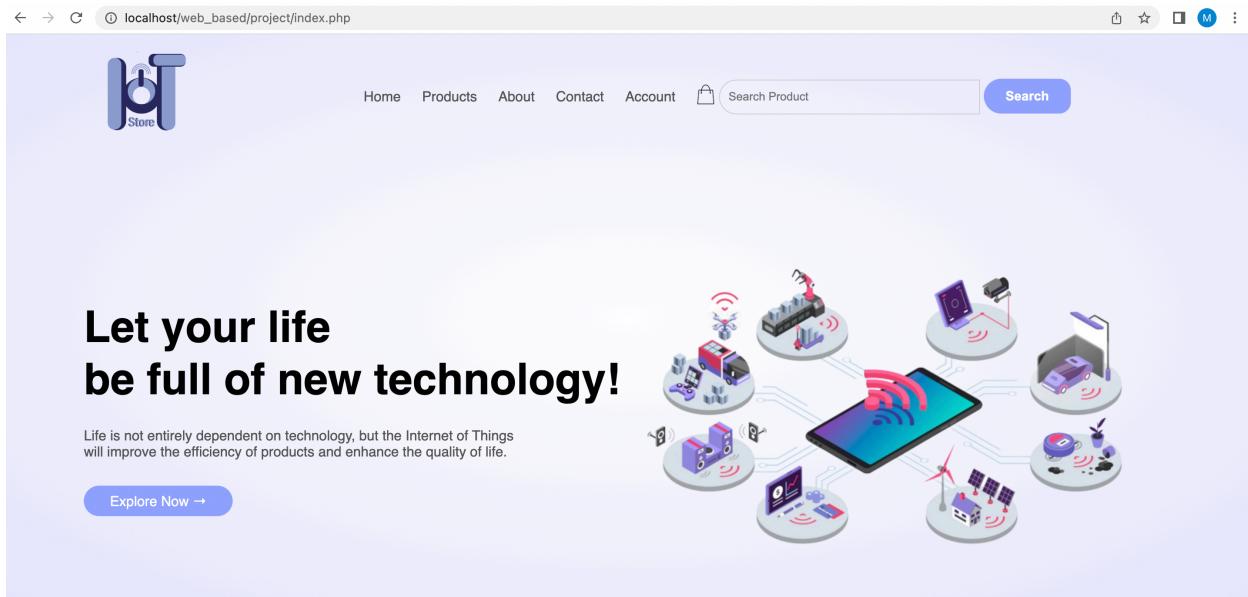
## 2.3 ER design



### 3. Web Application Interfaces

#### 3.1 Home page

The home page of the site contains a tab bar that consists of several options (home, products, communication, about us, cart). And, on the search bar to search for products on the site. The page is characterized by displaying the most prominent products, customer comments, and their evaluation of services and products.



### 3.2 About Us page

This page displays information about the site and our most important goals on which we rely.

**About Us**

**Internet Of Things (IoT)**

Based In Saudi Arabia. We Are Very Proud And Striving To Be An Ever-Expanding And #1 Saudi Trusted Supplier For Industrial Plug & Play Solutions Covering The Whole Range Of Industrial Internet Of Things (IOT), Industrial Sensors, Wireless Sensor Network, Connected Devices, Embedded Systems, M2M, PLC, Modems And Routers, Development Boards And Kits, And Robotics. Supplying More Affordable But High-Quality Industrial Plug And Play Solutions Is Our Focus And At IOT Store, Our Mission Is To Provide The Best And Easy Place For System Integrators, Engineers, Makers, Designers, Educators And Open Source Hardware Advocates To Experience And Enjoy IOT Ecosystem. We Ship Worldwide And The Shipping Cost Is Auto-Calculated In The Checkout Based On The Shipping Address And Weight. We Would Love To Hear About Adding New Products To Our Website And Offer The Whole Range As Much As Feasible And Invite All To Contact Us.

Let's contact

### 3.3 Contact Us page

This page shows the company's website and ways to contact us.

**Conatct Us**

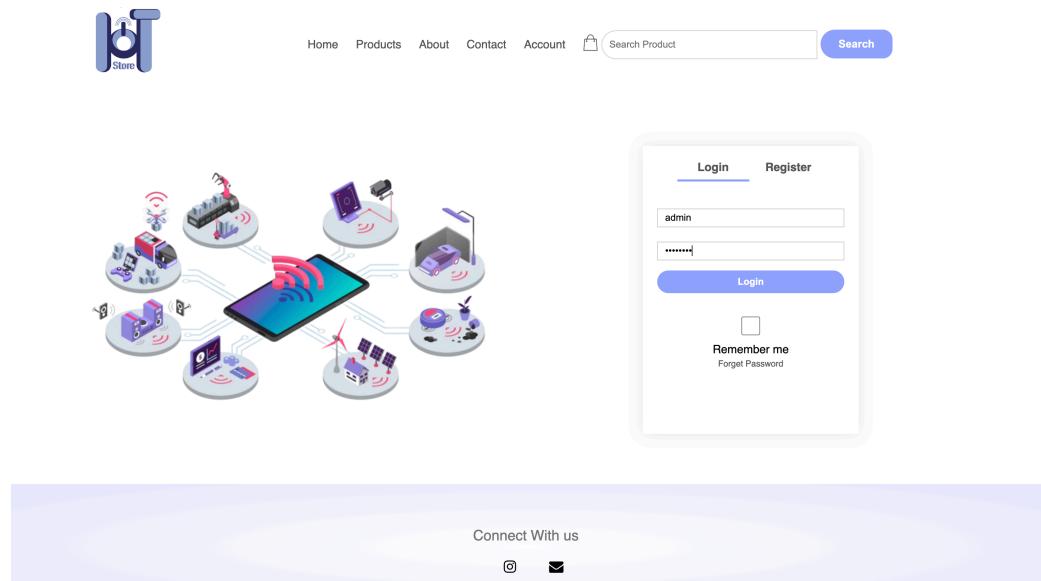
**Internet Of Things (IoT)**

Based In Saudi Arabia. We Are Very Proud And Striving To Be An Ever-Expanding And #1 Saudi Trusted Supplier For Industrial Plug & Play Solutions Covering The Whole Range Of Industrial Internet Of Things (IOT), Industrial Sensors, Wireless Sensor Network, Connected Devices, Embedded Systems, M2M, PLC, Modems And Routers, Development Boards And Kits, And Robotics. Supplying More Affordable But High-Quality Industrial Plug And Play Solutions Is Our Focus And At IOT Store, Our Mission Is To Provide The Best And Easy Place For System Integrators, Engineers, Makers, Designers, Educators And Open Source Hardware Advocates To Experience And Enjoy IOT Ecosystem. We Ship Worldwide And The Shipping Cost Is Auto-Calculated In The Checkout Based On The Shipping Address And Weight. We Would Love To Hear About Adding New Products To Our Website And Offer The Whole Range As Much As Feasible And Invite All To Contact Us.

Let's contact

### 3.4 Admin login page

This page shows the admin login to the site.



### 3.5 Admin page

This admin page has features such as adding a new product or modifying it.

A screenshot of the IoT Store admin dashboard. On the left is a modal window titled 'ADD A NEW PRODUCT' with fields for Product Name ('Fingerprint Smart Door Lock'), Description ('Fingerprint Keyless Wifi Tuya App Smart Digital Doo'), Price ('3000'), and a file upload field ('Choose File smart\_lock1.jpg'). A blue 'Add Product' button is at the bottom. To the right is a table with four columns: 'Product Image', 'Product Name', 'Product Price', and 'Action'. The first row shows an image of a smart speaker, the name 'Smart Speaker With Alexa', the price 'SAR 2000/-', and two buttons: a blue 'Edit' button with a pencil icon and a blue 'Delete' button with a trash bin icon. The table has a light gray header and white rows.

### 3.6 Product page

This page is the main page of the site, which displays all the products on the site.

The screenshot shows the 'All Products' section of the IoT Store website. At the top, there is a navigation bar with links for Home, Products, About, Contact, Account, a search bar, and a shopping cart icon. Below the navigation bar, the heading 'All Products' is centered above four product cards. The first card is for a 'Test Product' (IoT lock) with a 5-star rating and 328 SAR price. The second card is for a 'Smart Watch' with a 5-star rating and 115 SAR price, featuring a note about battery backup. The third card is for an 'Amazon Echo Dot' with a 5-star rating and 947 SAR price. The fourth card is for a 'Fulton Morrow' device with a 5-star rating and 634 SAR price. At the bottom of the page, there is a footer with social media links and the URL 'localhost/web\_based/project/products.php'.

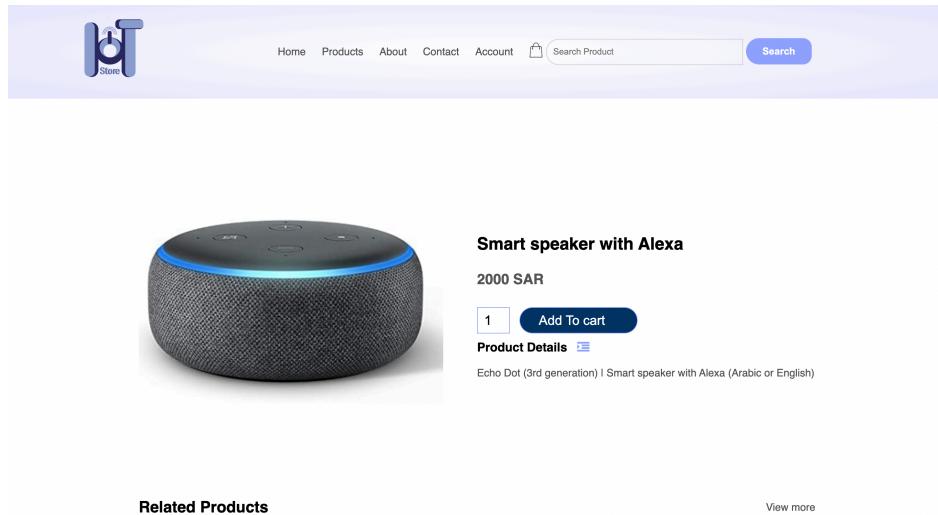
### 3.7 Login page

This page enables the user to log in, so he can add his products to the cart. Without logging in, he will not be able to add products and continue purchasing.

The screenshot shows the login page of the IoT Store website. The top navigation bar is identical to the product page. The main content area features a central login form with tabs for 'Login' and 'Register'. The 'Login' tab is active, showing input fields for a username ('Amirah'), password ('Mohammed'), and email ('Amirah\_7@gmmail.com'). Below these fields are two more input fields, one for a password and another for a phone number ('0500906710'). A 'Register' button is at the bottom of the form. To the left of the form is a decorative graphic of various IoT devices (smartphone, sensors, wind turbines, solar panels) connected wirelessly. At the bottom of the page is a footer with social media links and the URL 'localhost/web\_based/project/account.php'.

### 3.8 Product Details page

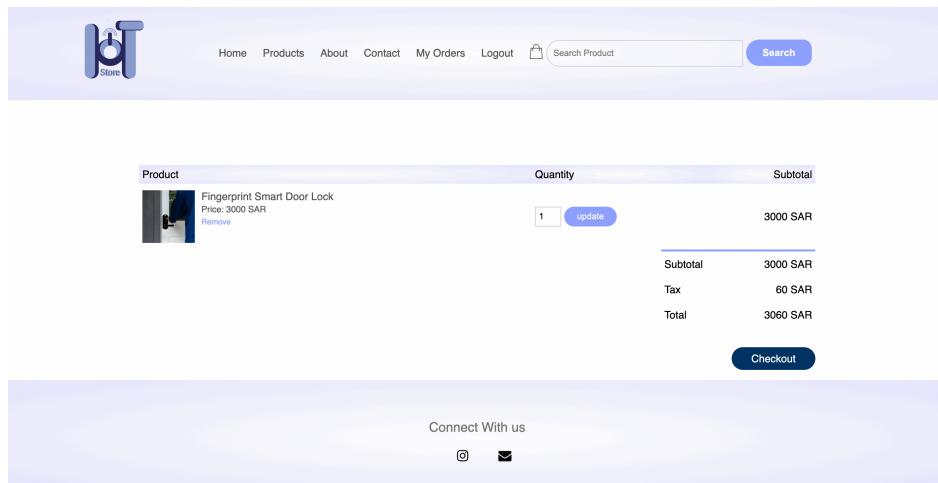
When clicking on any product name on the site, the user will be taken to a detailed page about the product, through which he can add the product to the basket and determine its quantity.



The screenshot shows a product detail page for an Echo Dot (3rd generation). At the top, there's a navigation bar with links for Home, Products, About, Contact, Account, and a search bar. The main content area features a large image of the device, its title 'Smart speaker with Alexa', its price '2000 SAR', a quantity selector set to 1, an 'Add To cart' button, and a 'Product Details' link. Below this, a small note says 'Echo Dot (3rd generation) | Smart speaker with Alexa (Arabic or English)'. At the bottom, there's a 'Related Products' section with a 'View more' link.

### 3.9 Cart page

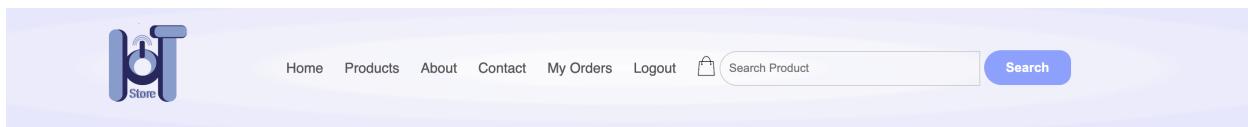
This page shows the customer the products he added to the cart with prices and the price after tax to proceed with the purchase.



The screenshot shows a shopping cart page. At the top, there's a navigation bar with links for Home, Products, About, Contact, My Orders, Logout, and a search bar. The main content area shows a single item in the cart: 'Fingerprint Smart Door Lock' with a price of '3000 SAR'. There's a 'Remove' link next to it. Below the cart summary, there's a table with three rows: Subtotal (3000 SAR), Tax (60 SAR), and Total (3060 SAR). A 'Checkout' button is located at the bottom of the table. At the very bottom, there's a 'Connect With us' section with icons for social media platforms.

### 3.10 Checkout page

After following the previous step, more information about the customer will be entered to confirm the request.



### Complete Your Info and Confirm Order

Your Name

Amirah

Phone Number

0500906711

Delivery Address

Jubail

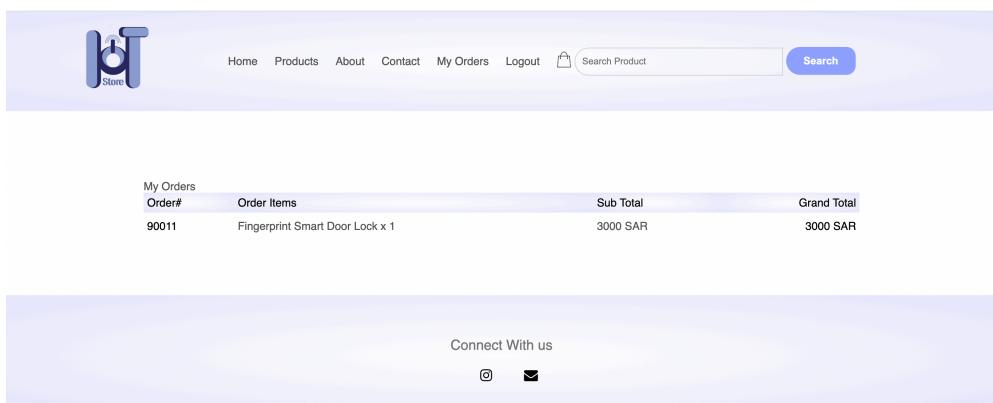
Confirm Order

Connect With us



### 3.11 My Orders page

This page shows all orders that the customer has placed.



Connect With us



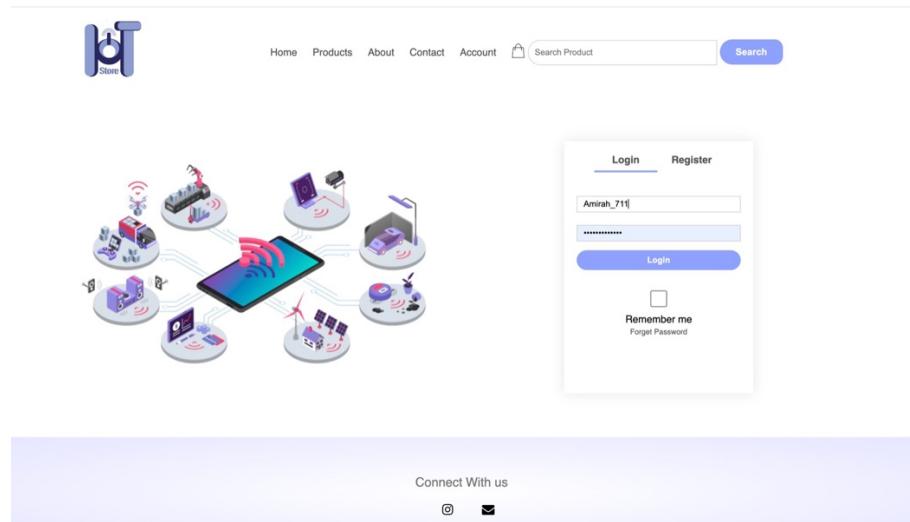
## 4. Fulfilled requirements

Requirement	Extent of implementation	Note
Database Design	Done	-
Web Design	Done	-
Display product	Done	-
Display product details	Done	-
Add to Cart	Done	We had some problem, but we see many tutorials in YouTube and it was helpful.
Checkout	Done	-
Buy	Done	-
Authenticate Managers	Done	-
Add New Product	Done	We had some problem, but we see many tutorials in YouTube and it was helpful.
Search for a product to modify or delete	Done but without search	We make the search in product page.
Display address and location map	Done	-
Past purchases	Done	-
Forms Validation	Done	-
Help window	Not Done	We forget it.
Accessibility	Done	-
Efficiency	Done	-

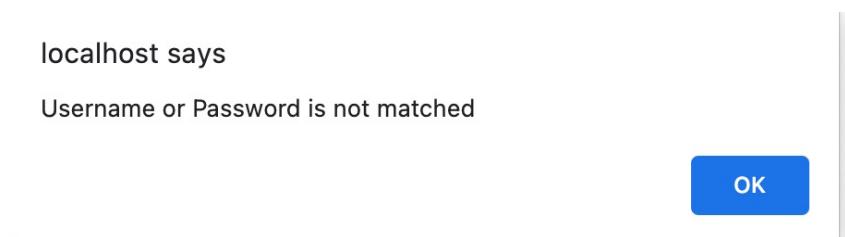
## 5. Testing Cases

We have done tests on some basic things like when logging in there was a requirement to verify that the username and password matched what was recorded in the database. There are also conditions for registration, including filling in all fields where the user cannot register without filling in all the fields, and in the password field we set conditions for creating a strong password. And also a requirement to check if the username already exists or not.

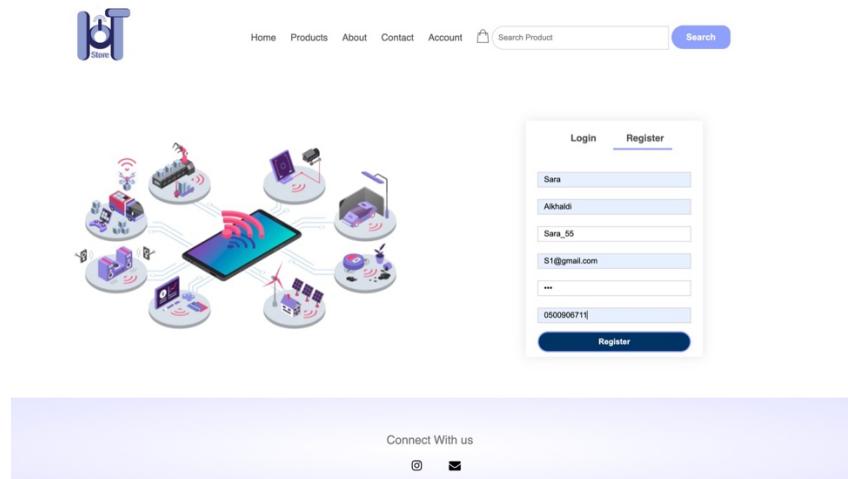
### Test1:



### Result1:



**Test2:**



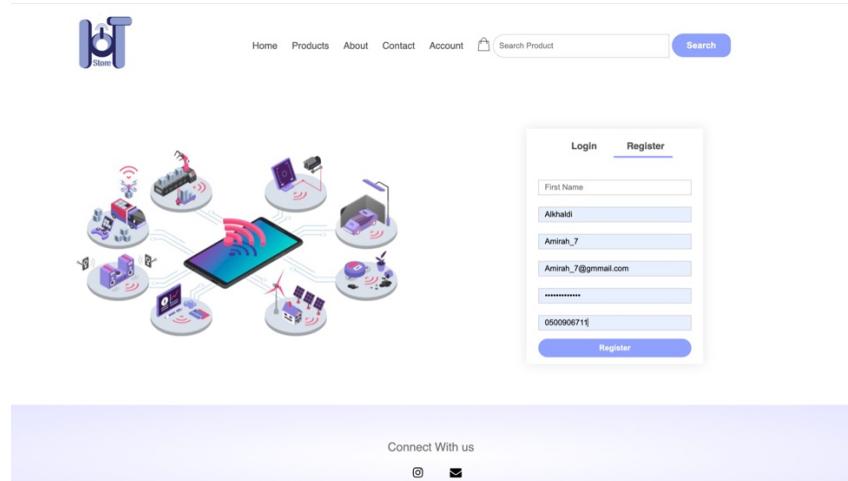
**Result2:**

localhost says

Password is not Strong

OK

**Test3:**



**Result3:**

localhost says

Add Your First Name !!

OK

**Test & Result4:**



**Complete Your Info and Confirm Order**

Product	Quantity	Subtotal
Smartwatch Full-Touch Price: 4000 SAR Remove	1	4000 SAR
Subtotal		4000 SAR
Tax		80 SAR
Total		4080 SAR

Your Name:

Phone Number:  Please fill out this field.

Delivery Address:

**Confirm Order**

Connect With us

