**E-COMMERCE WEBSITE**

Website Name:

C++ (Coffee Plus Plus)

PROJECT BY

**GONZALES, KENNETH**

**LISABA, ROSE ANN**

**MORCOSO, MARY JOYCE**

**SAUNAR, MARICON**

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# **PROBLEM STATEMENT**

*“As a coffee lover and frequent online shopper, I am facing a frustrating problem with the current e-commerce websites for coffee shops. The issue is that these websites often lack user-friendly interfaces and fail to provide personalized recommendations based on my preferences and previous purchases. As a result, I spend too much time browsing through irrelevant products, which reduces my overall shopping experience.”*

To solve this problem, we’re implementing a software system that can provide a personalized shopping experience. This system should have the ability to recommend products based on their previous purchases and browsing history. Additionally, it should have a user-friendly interface that allows them to easily browse and search for products. This would significantly enhance their shopping experience and make them more likely to return to the website for future purchases

# **REQUIREMENTS ANALYSIS and DESIGN**

**Requirements Analysis:**

To create an effective e-commerce website for an online coffee shop, we need to identify and prioritize the requirements of both the customers and the business.

**User Requirements:**

* A user-friendly interface that is easy to navigate and use
* Advanced search and filter options to find specific coffee products
* Personalized recommendations based on previous purchases and browsing history
* Secure payment options to protect user’s financial information
* Easy checkout process that is clear and concise

**Business Requirements:**

* Inventory management system to track and manage products in stock
* Sales tracking system to monitor the performance of the website and identify trends
* Integration with social media platforms for marketing and promotion
* Scalability and flexibility to adapt to changes in demand and market trends.

**Design:**

Based on the requirements identified above, the design of the e-commerce website should include the following features:

* Home page: The home page should be visually appealing and provide clear navigation options. It should also include a search bar with advanced filter options.
* Product pages: Each product page should include a detailed description of the product, including origin, roast level, flavor profile, and customer reviews. It should also include options to add the product to the cart and a “Buy” button for quick checkout.
* Personalized recommendations: The website should use machine learning algorithms to provide personalized recommendations based on the customer’s previous purchases and browsing history.
* Payment options: The website should include secure payment options, such as PayPal and credit card payments.
* Checkout process: The checkout process should be clear and concise, with options to enter shipping information and apply any available discounts or promo codes.
* Inventory management: The website should include an inventory management system that updates in real-time to ensure that products are accurately represented on the website.
* Sales tracking: The website should have a sales tracking system that provides insights into sales performance, popular products, and customer trends.
* Social media integration: The website should include links to social media platforms, such as Instagram and Twitter, to promote the website and engage with customers.
* Scalability and flexibility: The website should be designed to scale and adapt to changes in demand and market trends, with the ability to add new products and features as needed.

# **2.1 USE CASE**

Place an Order for Coffee Products

Actors:

* 1. Customer
* 2. Inventory Management System
* 3. Payment System

Preconditions:

* The customer must have an account on the e-commerce website.
* The customer must have selected the desired coffee products and added them to the cart.
* The customer must have entered the shipping information and payment details.

Scenarios:

* The customer navigates to the shopping cart and reviews the selected coffee products.
* The customer selects the desired payment method.
* The payment system verifies the payment details and confirms payment.
* The inventory management system updates the inventory of the purchased products.
* The e-commerce website displays the order confirmation with the order number and estimated delivery date.
* The e-commerce website sends an email confirmation to the customer with the order details.

Alternative paths:

* + If the payment is not authorized, the payment system will prompt the customer to enter new payment details.
  + If the selected products are out of stock, the inventory management system will prompt the customer to remove the out-of-stock products or select an alternative product.
  + If the customer enters invalid shipping information, the e-commerce website will prompt the customer to correct the information

Post-conditions:

* + The customer has successfully placed an order for coffee products on the e-commerce website.
  + The inventory management system has updated the inventory of the purchased products.
  + The payment system has confirmed payment and transferred the funds to the coffee shop’s account.
  + The e-commerce website has sent an email confirmation to the customer with the order details.

# **2.2 DFD (Data Flow Diagram)**