Web Development Project

January 27, 2025

1 Introduction

The Art Marketplace Platform is an online marketplace where artisans can showcase and sell their handmade products, customers can browse and purchase items, and delivery partners manage product deliveries.

2 Technology Stack

- Front-end: Angular (using Bootstrap or Angular
- Material for UI components)
- Back-end: ASP.NET Core for the RESTful API
- ORM: Entity Framework Core for data modeling and interactions
- Authentication: JWT-based token authentication
- Architecture: N-tier, following RESTful principles

3 Use cases

3.0.1 User Profiles and Permissions

- Artisan:

  - **Create and Sell Handmade Products:** Artisans can upload detailed listings for their handmade products, including images, descriptions, prices, and categories (e.g., paintings, jewelry, pottery).
  - **Manage Orders:** Artisans can track orders, mark them as fulfilled, and update the order status (e.g., processing, shipped).
  - **Respond to Customer Inquiries:** Artisans can reply to customer inquiries about their products, provide customizations, and offer personal consultations for bespoke items.
  - **Manage Portfolio:** Artisans can view and update their portfolio, manage product availability, and remove products if necessary.
  - **View Earnings:** Artisans can track their earnings from product sales and access financial reports.

- Customer

  - Customer:
  - **Browse Marketplace:** Customers can explore the platform, filtering products by category, price, and artisan.
  - **Leave Reviews:** Customers can leave reviews for products they have purchased, providing ratings and feedback to artisans and future buyers.
  - **Track Orders:** Customers can view their order status, including shipping and delivery details.

- Delivery Partner:

  - **Coordinate Pickup:** Delivery partners work directly with artisans to schedule and manage product pickups once an order is confirmed.
  - **Update Delivery Status:** Delivery partners are responsible for updating the customer on the delivery progress, including estimated arrival times.
  - **Track Deliveries:** Delivery partners can view the status of their deliveries, including which orders are pending pickup or in-transit.

- Administrator:

  - **User Management:** Admins can manage Artisan, Customer, and Delivery Partner accounts, approve or deactivate accounts.
  - **Content Moderation:** Admins can review and approve product listings, ensuring they meet platform guidelines and removing any inappropriate content.

4 Interaction

- Delivery partners interact with artisans for pickup and update customers on delivery progress.

- After a purchase, customers leave reviews based on the product quality and the artisan's service. Artisans can respond to customer reviews for future engagement.

5 Api endpoint

- Auth: /api/auth/register: User registration (Artisan, Customer, Delivery Partner).

- Artisan: /api/artisans/id/products: Create, update, or view artisan's products.

- Customer: /api/customers/id/orders: View customer orders and their status.

- Delivery Partner: /api/delivery-partners/id/orders: View orders assigned for delivery.

- Admin: /api/admin/users: Manage users (Artisans, Customers, Delivery Partners).

6 Frontend Application

6.1 Use Cases

6.1.1 User Authentication

Provide user registration and login functionality for Artisans, Customers, and Delivery Partners. Implement JWT-based authentication for secure access to the platform's features.

6.1.2 Dashboard

Display a personalized dashboard for each user role:

- Artisan Dashboard: Show an overview of their products, orders, and customer reviews.

- Customer Dashboard: Display recent purchases, favorite products, and order status.

- Delivery Partner Dashboard: Present assigned orders and their delivery statuses.

- Admin Dashboard:

6.1.3 Product Catalog

- Display a list of available products with product details such as price, description, and images.

- Allow customers to search, filter, and sort products by categories, price, and ratings.

- Show product details, including Artisan information, customization options, and customer reviews.

6.1.4 Shopping Cart and Checkout

- Customers can add products to their cart and view the cart's contents.

- Allow customers to proceed with the checkout process, selecting shipping options and entering payment details.

- Provide order confirmation and payment summary after successful purchase.

6.1.5 Order Management

- Allow customers to view their order history and current order statuses (e.g., "pending", "shipped", "delivered").

- Artisans can view and update order statuses (e.g., "in production", "shipped").

- Delivery Partners can update the delivery status (e.g., "picked up", "in transit", "delivered").

6.1.6 Product Reviews

- Customers can leave reviews and ratings for purchased products.

- Artisans can view and respond to customer reviews.

6.1.7 Profile Management

- Artisan Profile: View and edit artisan details, manage products, and respond to customer inquiries.

- Customer Profile: View order history, manage payment details, and leave reviews for purchased products.

- Delivery Partner Profile: View assigned orders and update delivery statuses.

6.1.8 Search and Filtering

Implement search functionality to help customers find specific products, artisans, or categories. Provide filtering options for customers to sort products by price, rating, or availability. Allow Artisans and Delivery Partners to search for orders and customers based on status or other attributes.

6.1.9 Admin Panel

- Provide an admin interface to manage users (Artisans, Customers, Delivery Partners) and products.

- Admins can approve or delete products listed by Artisans.

- Admins can monitor order statistics, product trends, and user activities.