



**FACULTY OF INFORMATION
TECHNOLOGY**

LIST OF FINAL PROJECT TOPICS

SEMESTER 1A SCHOOL YEAR 2025 - 2026

Subject Code : ITE1265E
 Subject : WEB APPLICATION DEVELOPMENT
 Class/Group :/
 Lecturer : Hoang Van Hieu, Nguyen Minh Tuan, Msc.

General requirements:

- Students must submit the following to the Learning Management System (LMS):
 - A report (Word, PDF format),
 - A presentation (in PPT or PPTX format),
 - The source code of the project.
- If you are found to have committed academic dishonesty on the project, such as using someone else's source code or report, you will fail the course and receive a score of 0.

Topic 1: Motorcycle and Spare Parts Store (E-Commerce)

Problem

A motorcycle and spare parts store seeks to expand its sales channels through online platforms. At present, customers can only visit the physical store to browse and make purchases, which significantly limits market reach. The store owner envisions the development of a web-based system that enables customers to browse products by brand, compare technical specifications, place orders, and track their delivery status. From the administrative side, the system should allow managers to add new products, adjust pricing, implement promotional campaigns, and monitor monthly revenue.

Objectives

- To design and implement an e-commerce platform that expands the store's sales channels beyond the physical outlet.
- To enable customers to browse products by brand, compare technical specifications, place online orders, and track delivery status.
- To provide administrators with tools for managing product catalogs, adjusting prices, applying promotional campaigns, and monitoring monthly revenue.
- To improve customer experience and business performance by leveraging web-based technology.

Requirements

- Technology: ASP.NET MVC 5, SQL Server for database management, Bootstrap for responsive design.

- Integration: Online payment gateway and shipment/delivery tracking system.
- Security: SSL encryption for transactions, role-based authentication for administrators.

Customer: (Basic and Advanced)

- Product Browsing & Search: Customers can browse motorcycles and spare parts by brand, category, or keyword.
- Product Comparison: Ability to compare technical specifications between multiple products.
- Shopping Cart & Order Placement: Customers can add items to a cart, proceed to checkout, and place orders online.
- Order Tracking: Customers can track their order status from confirmation to delivery.
- Promotions & Discounts: Automatic application of discounts or promotional codes during checkout.

Administrator (Basic and Advanced)

- Product Management: Add, update, or remove products with images, specifications, and pricing.
- Pricing & Promotions: Adjust product prices, apply seasonal promotions, and manage discount codes.
- Sales & Revenue Reports: Generate and review monthly sales and revenue statistics.
- User & Order Management: Manage customer accounts and process orders efficiently.

Topic 2. Private Clinic – Online Appointment Booking System

Problem:

A small private clinic with five specialized doctors is currently facing difficulties in managing patient appointments manually. Patients are required to call or visit the clinic directly to schedule consultations, which often results in overlapping appointments, missed visits, and administrative inefficiency. This outdated method creates inconvenience for patients, increases the workload for reception staff, and reduces the overall quality of service delivery.

Objectives:

- To develop an online appointment booking system that simplifies and automates scheduling for patients and clinic staff.
- To enable patients to choose doctors, select available time slots, receive confirmation notifications, and track their appointment history.
- To allow receptionists to centrally manage all bookings, including creating, rescheduling, and canceling appointments when necessary.

- To provide doctors with a structured daily view of their patient schedule to improve time management and consultation efficiency.
- To equip administrators with system-level management functions, including user management, configuration, reporting, and monitoring.

Requirements:

- Technology Stack: ASP.NET MVC 5, SQL Server, Bootstrap/React for front-end.
- Notifications: Integration with Email.
- Security: Role-based access control (RBAC), data encryption.
- Scalability: Designed to expand with additional doctors, services, or clinic branches.

Patient (Basic and Advanced)

- Doctor & Time Slot Selection: Patients can select a doctor and book consultations in available time slots.
- Appointment Confirmation: Automatic confirmation via Email/SMS.
- Appointment History: Patients can review past and upcoming bookings.
- Reschedule/Cancel: Patients may request to reschedule or cancel appointments within policy limits.

Receptionist(Basic and Advanced)

- Centralized Appointment Management: Create, edit, or cancel appointments for all doctors.
- Conflict Prevention: Avoid double bookings and ensure accurate scheduling
- Patient Records: Maintain contact details and booking history.

Doctor-Side (Basic and Advanced)

- Daily Appointment View: Access a list of scheduled patients by day.
- Patient Information: Review patient details before consultation.
- Availability Management: Update or adjust working hours.

Administrator (Basic and Advanced)

- User & Role Management: Create accounts for doctors, receptionists, and patients; assign roles and permissions.
- System Configuration: Manage clinic services, working hours, and service fees.
- Reports & Analytics: Generate revenue reports, appointment statistics, cancellation rates, and doctor performance.
- Monitoring & Audit Logs: Track user activities for security and compliance.
- Promotion & Pricing Management: Apply discount codes or special service packages.

Topic 3: Online Bookstore

Problem

The online bookstore web application will serve as a comprehensive digital platform for book retail operations. The system will cater to three primary user types: customers who browse and purchase books, administrators who manage inventory and orders, and guest users who can explore the catalog. The platform will handle the complete book purchasing lifecycle from catalog browsing to order fulfillment, including inventory management, user account management, and payment processing simulation. The application emphasizes user experience with advanced search capabilities, personalized recommendations, and detailed book information displays.

1. Core Features and Functionality

1.1 User Management

- **Customer Registration & Authentication:** Email-based registration with password strength requirements
- **User Profiles:** Personal information, shipping addresses, order history, wishlist management
- **Role-Based Access:** Customer, Administrator, and Guest roles with appropriate permissions
- **Social Login Integration:** Optional Google/Facebook authentication
- **Account Recovery:** Password reset via email verification

1.2 Book Catalog Management

- **Book Information System:** Title, author, ISBN, publisher, publication date, genre, description, price
- **Inventory Tracking:** Stock levels, availability status, low stock alerts
- **Category Organization:** Genre-based categorization (Fiction, Non-fiction, Science, Technology, etc.)
- **Search & Filtering:** Advanced search by title, author, genre, price range, publication year
- **Book Images:** Cover image upload and display with multiple image support
- **Book Reviews & Ratings:** Customer review system with 5-star ratings

1.3 Shopping Experience

- **Shopping Cart:** Add/remove items, quantity adjustment, persistent cart across sessions
- **Wishlist Functionality:** Save books for later purchase, move items between cart and wishlist

- **Product Recommendations:** "Customers who bought this also bought" suggestions
- **Quick View:** Modal popup for book details without leaving current page
- **Recently Viewed:** Track and display recently browsed books

1.4 Order Management

- **Checkout Process:** Multi-step checkout with address selection and payment method
- **Order Tracking:** Order status updates (Pending, Processing, Shipped, Delivered)
- **Order History:** Complete purchase history with reorder functionality
- **Invoice Generation:** PDF invoice creation and email delivery
- **Order Cancellation:** Customer-initiated cancellation with approval workflow

1.5 Administrative Features

- **Dashboard Analytics:** Sales reports, popular books, revenue charts, customer statistics
- **Inventory Management:** Add/edit/delete books, bulk import from CSV, stock level management
- **Order Processing:** View and update order statuses, manage returns/refunds
- **Customer Management:** View customer details, order history, account status management
- **Content Management:** Homepage banners, promotional content, category management

1.6 Additional Features

- **Search Autocomplete:** Smart search suggestions as users type
- **Newsletter Subscription:** Email marketing integration with promotional offers
- **Discount System:** Coupon codes, percentage/fixed amount discounts, seasonal sales
- **Book Availability Notifications:** Email alerts when out-of-stock books become available
- **Export Functionality:** Sales reports, customer lists, inventory reports in PDF/Excel format

Topic 4: Online Clothing Store

Problem

The online clothing store will function as a modern e-commerce platform specializing in fashion retail. The system will support multiple clothing categories for men, women, and children, with sophisticated product variation management (sizes, colors, styles). The platform will handle complex inventory scenarios where products have multiple variants, seasonal collections, and fashion trends. The application will emphasize visual appeal with high-quality product images, size guides, and style recommendations. The system will manage the complete fashion retail process including seasonal inventory updates, style categorization, and customer fit preferences.

1. Core Features and Functionality

1.1 User Management

- **Customer Registration & Authentication:** Email-based registration with password strength requirements
- **User Profiles:** Personal information, shipping addresses, order history, wishlist management
- **Order History:** Purchase tracking, return history, favorite item
- **Role-Based Access:** Customer, Administrator, and Guest roles with appropriate permissions
- **Social Login Integration:** Optional Google/Facebook authentication
- **Account Recovery:** Password reset via email verification

1.2 Product Catalog Management

- **Product Variations:** Size (XS-XXXL), color, style variations for each clothing item
- **Category Organization:** Men's, Women's, Children's with subcategories (Shirts, Pants, Dresses, Accessories)
- **Seasonal Collections:** Spring/Summer, Fall/Winter collection management
- **Product Attributes:** Brand, material, care instructions, country of origin, fit type
- **Image Gallery:** Multiple product images, zoom functionality, 360-degree view
- **Size Charts:** Interactive size guides with measurement conversion

1.3 Advanced Search & Discovery

- **Filter System:** Size, color, brand, price range, material, occasion, season
- **Visual Search:** Filter by color swatches, style categories
- **Trend Categories:** New arrivals, bestsellers, sale items, featured collections

- **Style Recommendations:** "Complete the look" suggestions, coordinating items
- **Fit Recommendations:** Size suggestions based on previous purchases and body measurements

1.4 Shopping & Checkout

- **Advanced Cart:** Size/color selection, quantity limits, stock availability warnings
- **Gift Options:** Gift wrapping, gift messages, gift receipts
- **Checkout Process:** Multi-step checkout with address selection and payment method
- **Order Tracking:** Order status updates (Pending, Processing, Shipped, Delivered)
- **Order History:** Complete purchase history with reorder functionality
- **Invoice Generation:** PDF invoice creation and email delivery
- **Order Cancellation:** Customer-initiated cancellation with approval workflow

1.5 Administrative Features

- **Dashboard Analytics:** Sales reports, popular products, revenue charts, customer statistics
- **Inventory Management:** Add/edit/delete products, bulk import from CSV, stock level management
- **Order Processing:** View and update order statuses, manage returns/refunds
- **Customer Management:** View customer details, order history, account status management
- **Content Management:** Homepage banners, promotional content, category management

Topic 5: Online Jewelry Store

Problem

The online jewelry store will operate as a luxury e-commerce platform specializing in fine jewelry, precious metals, and gemstones. The system will handle high-value transactions with enhanced security measures, detailed product authentication, and premium customer service features. The platform will support various jewelry categories including rings, necklaces, earrings, bracelets, watches, and custom jewelry pieces. The application will emphasize product visualization with high-resolution imagery, 360-degree views, and detailed specifications including gemstone certifications, metal purity, and craftsmanship details.

1. Core Features and Functionality

1.1 User Management

- **Customer Registration & Authentication:** Email-based registration with password strength requirements
- **User Profiles:** Personal information, shipping addresses, order history, wishlist management
- **Order History:** Purchase tracking, return history, favorite item
- **Role-Based Access:** Customer, Administrator, and Guest roles with appropriate permissions
- **Social Login Integration:** Optional Google/Facebook authentication
- **Account Recovery:** Password reset via email verification

1.2 Product Catalog Management

- **Jewelry Categories:** Rings (engagement, wedding, fashion), necklaces, earrings, bracelets, watches
- **Product Specifications:** Metal type/purity, gemstone details, weight, dimensions, certification
- **Certification Management:** GIA, AGS certificates, appraisal documents, authenticity guarantees
- **Custom Sizing:** Ring sizing, chain length customization, bracelet adjustments
- **Metal Options:** Gold (14k, 18k, 24k), platinum, silver, rose gold with current market pricing
- **Gemstone Information:** 4 C's (Cut, Clarity, Color, Carat), origin, treatment details

1.3 Advanced Search & Discovery

- **Filter System:** Size, color, brand, price range, material, occasion, season
- **Visual Search:** Filter by color swatches, style categories
- **Trend Categories:** New arrivals, bestsellers, sale items, featured collections
- **Style Recommendations:** "Complete the look" suggestions, coordinating items
- **Fit Recommendations:** Size suggestions based on previous purchases and body measurements

1.4 Shopping & Checkout

- **Advanced Cart:** Size/color selection, quantity limits, stock availability warnings
- **Gift Options:** Gift wrapping, gift messages, gift receipts

- **Checkout Process:** Multi-step checkout with address selection and payment method
- **Order Tracking:** Order status updates (Pending, Processing, Shipped, Delivered)
- **Order History:** Complete purchase history with reorder functionality
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1.5 Administrative Features

- **Dashboard Analytics:** Sales reports, popular products, revenue charts, customer statistics
- **Inventory Management:** Add/edit/delete products, bulk import from CSV, stock level management
- **Order Processing:** View and update order statuses, manage returns/refunds
- **Customer Management:** View customer details, order history, account status management

Topic 6: Event Management System

Problem

The event management system will serve as a comprehensive platform for organizing, promoting, and managing various types of events including conferences, workshops, seminars, concerts, and social gatherings. The system will support multiple user roles: event organizers who create and manage events, attendees who register and participate, and administrators who oversee the platform. The application will handle the complete event lifecycle from initial event creation and promotion through registration management, payment processing, attendance tracking, and post-event feedback collection. The platform will emphasize collaboration tools, real-time updates, and comprehensive reporting capabilities.

1. Core Features and Functionality

2.1 User Management

- **Multi-Role System:** Event Organizers, Attendees, Speakers, Sponsors, Administrators
- **Organizer Profiles:** Company information, event history, ratings, contact details
- **Attendee Profiles:** Personal information, event history, interests, networking preferences
- **Speaker Profiles:** Biography, expertise areas, previous events, contact information

- **Verification System:** Organizer verification for credibility and trust

2.2 Event Creation & Management

- **Event Setup Wizard:** Step-by-step event creation with templates
- **Event Types:** Conferences, workshops, webinars, concerts, meetups, private events
- **Event Details:** Title, description, agenda, venue, date/time, capacity, pricing tiers
- **Multi-Session Events:** Track management, parallel sessions, workshop scheduling
- **Recurring Events:** Weekly/monthly event series with automated scheduling
- **Event Collaboration:** Multiple organizers, role-based permissions, task assignments

2.3 Registration & Ticketing

- **Flexible Registration:** Early bird pricing, group discounts, promotional codes
- **Ticket Types:** General admission, VIP, student discounts, speaker passes
- **Registration Forms:** Custom fields, additional questions, dietary preferences
- **Payment Processing:** Multiple payment gateways, installment plans, invoice generation
- **Waitlist Management:** Automated waitlist with notification system
- **Group Registration:** Corporate bookings, team registration with approval workflow

2.4 Venue & Resource Management

- **Venue Information:** Address, capacity, facilities, accessibility features, parking
- **Interactive Maps:** Venue layout, seating charts, navigation assistance
- **Resource Booking:** AV equipment, catering, room setup, technical requirements
- **Venue Calendar:** Availability checking, double-booking prevention
- **Virtual Event Support:** Integration with Zoom/Teams, streaming capabilities

2.5 Communication & Marketing

- **Event Promotion:** SEO-optimized event pages, social media integration
- **Email Campaigns:** Registration confirmations, reminders, updates, follow-ups
- **Mobile Notifications:** Push notifications for event updates, schedule changes
- **Networking Tools:** Attendee directory, messaging system, meeting scheduler
- **Social Features:** Event feeds, photo sharing, live updates, hashtag integration

2.6 Event Execution Features

- **Check-in System:** QR code scanning, name badge printing, attendance tracking
- **Live Updates:** Real-time announcements, schedule changes, emergency notifications
- **Feedback Collection:** Session ratings, overall event feedback, improvement suggestions
- **Live Streaming:** Integration with streaming platforms for hybrid events
- **Mobile App Support:** Companion mobile application for attendees

2.7 Analytics & Reporting

- **Registration Analytics:** Registration trends, conversion rates, demographic insights
- **Financial Reports:** Revenue tracking, payment status, refund management
- **Attendance Reports:** Check-in statistics, session popularity, no-show tracking
- **Feedback Analysis:** Satisfaction scores, sentiment analysis, improvement areas
- **Export Capabilities:** Attendee lists, financial reports, analytics dashboards

2.8 Post-Event Management

- **Certificate Generation:** Automated attendance certificates, CEU credits
- **Event Archive:** Recording access, presentation downloads, resource sharing
- **Follow-up Campaigns:** Thank you emails, surveys, future event promotions
- **Relationship Management:** Attendee relationship tracking, repeat customer identification
- **Event Cloning:** Template creation for similar future events

EVALUATION CRITERIA AND SCALES

- **D1 (3 points):** Evaluation of the results of the project: (The results are application products, software, application programs, application models, application scenarios, demo scenarios, etc.). Based on small criteria:
 - The level of results meets the set requirements and functions.
 - Correctness and quality of results.
 - Practicality and convenience.
 - Apply new techniques and new technologies when building applications.
- **D2 (3 points):** Evaluation of the content of the report, presentation, layout, knowledge of research, research, etc. It can be based on the following criteria:
 - Content of research, research on the theoretical part, basic knowledge
 - The application of knowledge to the topic: system design analysis, database, etc.
 - Presentation, layout, formatting, spelling, references.
- **D3 (2 points):** Evaluate the direct report, answer questions with the Lecturer.
- **D4 (1 point):** Evaluation of the spirit, attitude, working style, compliance with the progress and requirements of the teacher, **Individual contributions in the group.**
- **D5 (1 point):** Use AI tools (to develop functions in the application or utilize AI tools in the course). Students present to demonstrate this.

Ho Chi Minh City, on September 8, 2025

Head of Department/Department

Ho Chi Minh City, on September 5, 2025

Questioner