CS F213/MAC F212 OOP
Semester-I, 2025-2026

Project: Live MART- Online Delivery System

Problem Statement:

The COVID-19 pandemic accelerated the global shift toward e-commerce, reshaping consumer buying behavior and retail operations. Today's retailers cannot rely solely on offering an online option but must provide personalized, user-friendly experiences. Consumers expect advanced search, personalized recommendations, and seamless shopping experiences. Moreover, highlighting region-specific local items is essential for strengthening local businesses.

This project aims to design and develop an Android/Web-based application that connects **Customers**, **Retailers**, and **Wholesalers**, streamlining the supply chain while enhancing user experience.

Objectives

- Build a platform for seamless interaction between customers, retailers, and wholesalers.
- Provide personalized search, filtering, and recommendations based on browsing/purchase history.
- Highlight region-specific local products.
- Ensure transparent pricing, real-time stock updates, and location-based shop suggestions.
- Enable robust order placement, payment (online/offline), and real-time order tracking.

User Hierarchy & Roles

- **Customers**:
  - Browse/search/filter items
  - Add to cart, place orders, make payments
  - Provide feedback/raise queries
- **Retailers**:
  - Manage inventory (add/delete/update items, set pricing)
  - Track customers' purchase history
  - Place and manage orders with wholesalers
  - Handle payments and customer queries
- **Wholesalers**:
  - Manage inventory for retailers
  - Set item pricing
  - Maintain retailer purchase/transaction history
  - Update stock after retailer orders

Functional Modules

- **Module 1: Registration and Sign-Up**
  - Multi-role registration (Customer/Retailer/Wholesaler)
  - Authentication via OTP
  - Social logins (Google/Facebook)
  - Google API integration for location
- **Module 2: User Dashboards**
  - Category-wise item listing with images
  - Item details: price, stock status, availability date
  - Retailer's proxy availability (retailer can show items available via wholesaler)
- **Module 3: Search & Navigation**
  - Smart filtering (cost, quantity, stock availability)
  - Location-based shop listings
  - Distance filters for nearby options
- **Module 4: Order & Payment Management**
  - Online and offline order placement
  - Calendar integration for offline orders with reminders
  - Order tracking: delivery details, status updates, notifications
  - Automatic stock update after transactions
- **Module 5: Feedback & Dashboard Updates**
  - Real-time order status updates
  - Delivery confirmation via SMS/e-mail
  - Product-specific feedback collection
  - Feedback visible on item pages

Expected Outcomes

- A functional Android/Web e-commerce platform prototype
- Enhanced consumer experience with personalized search and localized product visibility
- Streamlined inventory/order management for retailers and wholesalers
- Improved feedback mechanisms for product/service quality

Evaluation Rubric

Criteria	Description	Marks
System Design & Architecture	It includes problem understanding and clear development of the prototype.	10
Functionality Implementation	Working implementation of mandatory modules (registration, dashboard, search, order placement, tracking, feedback).	60
Innovation & User Experience	Value-added features (personalized recommendations, UI/UX	10

	design, ease of navigation, mobile/web responsiveness).	
Technical Depth	Code quality, use of APIs (Google API, payment gateways), integration with third-party services, scalability of design.	15
Testing & Validation	Unit testing, integration testing, bug resolution, handling edge cases (e.g., stock unavailability, payment failure).	10
Documentation & Presentation	Completeness of project report, clarity in documentation, and effectiveness of final recorded presentation (demo).	15
Total		120

Important Note:
- Students to work in groups (which should have been formed). The evaluation will be done for the group and all the members will get the same score. It will be up to the members to have fair share of contribution for the successful implementation/development of the project. Arguments or feedback on individual member's contribution will not be entertained. If someone is not giving valuable contribution, then it depends upon other members to decide how to engage with the non-performing member. IC will not indulge.
- You are free to design the GUI for the above project as per your creativity. Appropriate links should be provided to transit from one option to another. Difference in GUI need to be maintained for both user and delivery person. Feel free to make your assumptions in order to make the implementation better. Not everything can be mentioned in the description.
- You are not expected to develop from scratch. You can feel free to make use of available APIs or packages, AI tools or techniques, etc. The idea is to expose you to project development experience. High use of modern advanced technology, platform, paradigm will definitely attract high grades.
- Tentatively evaluation will be 120 marks as mentioned in the rubrics, which can be scaled up or down, as required to suit the weightage of this evaluation component.
- The marking will purely depend upon the evaluators and their evaluation will be final. No arguments in this regard will be entertained and will attract negative marking as per IC's discretion. In case of unethical practices, if observed, or brought to my notice, then without any discussion (as cannot engage in forensic investigations nor act as a moral police) all the groups involved will be awarded 0 marks.
- **Each group needs make a PDF report and record a video (demo of working application) presentation (15-20 mins)** of the developed application involving all the group members and upload it to a shared folder (link to upload will be shared later). The video file should be named by the Group No. Supposing your Group No. is 1, then file should be name as 1_OOP_S1_2025-2026_Project. While recording the demo (working application), each member should introduce himself/herself and explain the functioning of any module(s).

- The **last date to upload the recorded video presentation and the report is on or before 23.11.2025.** This is hard deadline and no request to extend the deadline will be entertained for operational/official limitations.
- Do a good work so that you will be able to reflect in your resume and feel proud of your efforts.

Best Wishes