Procurement and Logistics Management System Project Plan

Keerthi K	PES1UG22CS284	5E
Kota Shriya	PES1UG22CS290	5E

Title:

Logistics and Procurement Management Database Management System

Project Overview:

The Procurement and Logistics Management System is designed to optimize the various functions involved in supply chain management, including inventory control, procurement processes, order management, and logistics coordination. The system provides a centralized platform for managing these activities.

Product Functions :

- Inventory Management: Real-time tracking and management of inventory levels, reorder points, and stock movements.
- Procurement Management: Automating procurement processes, including supplier selection, purchase order creation, and order tracking.
- OrderProcessing: Managing customer orders, including order entry, processing, and fulfilment.
- Supplier Management: Managing supplier information, performance metrics, and contract terms.
- Logistics Coordination: Planning and tracking shipments, route optimization, and delivery scheduling.
- Reporting and Analytics: Generating reports and analysing supply chain performance metrics.

Project Lifecycle Model

Chosen Lifecycle Model:

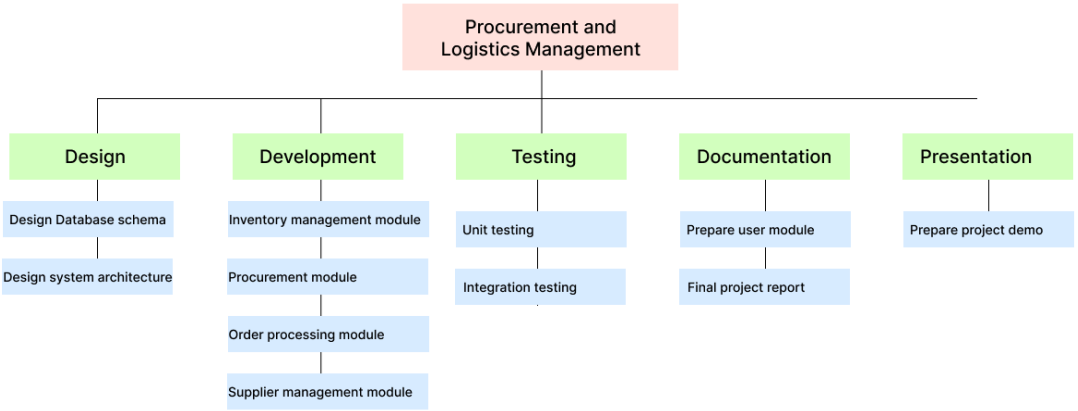
Agile Software Development Lifecycle (SDLC)

Justification:
We have chosen the **Agile model** due to its iterative and incremental approach, which allows for flexibility and continuous feedback throughout the development process. This model helps in addressing changes in requirements and enables active collaboration with stakeholders. It is ideal for our project as the logistics and procurement system may need frequent updates in functionality and performance tuning based on user feedback.

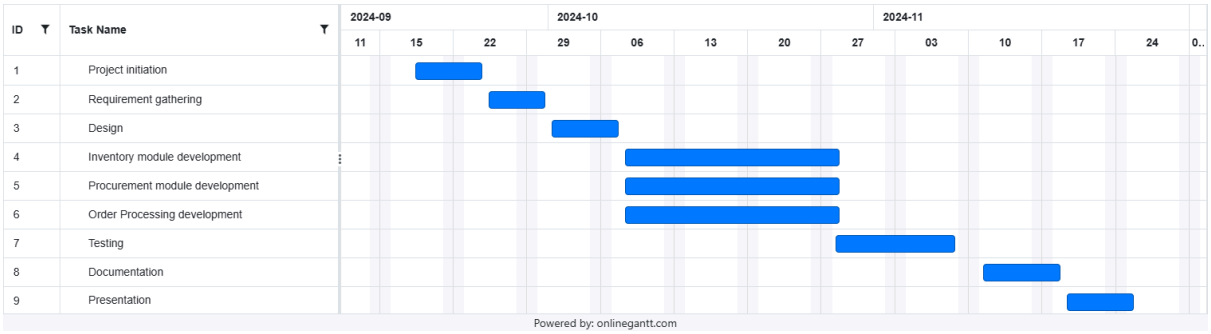
Tools Used Throughout the Lifecycle

- **Planning Tool**:
  Jira: Used for task assignment, sprint planning, and tracking project progress. Jira is ideal for managing our Agile lifecycle.
- **Design Tool**:
  ERDPlus: To create ER diagrams, class diagrams, and other UML models for system design.
- **Version Control**:
  Git: For managing source code versioning and collaboration. GitHub will be used as the repository for the project.
- **Development Tools**:
  PyCharm: Integrated development environment for Python coding.
- **Bug Tracking**:
  Jira: Also serves as the bug-tracking tool for managing reported issues during the development lifecycle.
- **Testing Tools**:
  PyTest: For unit testing Python code.
  Selenium: For automated testing of the web interface.

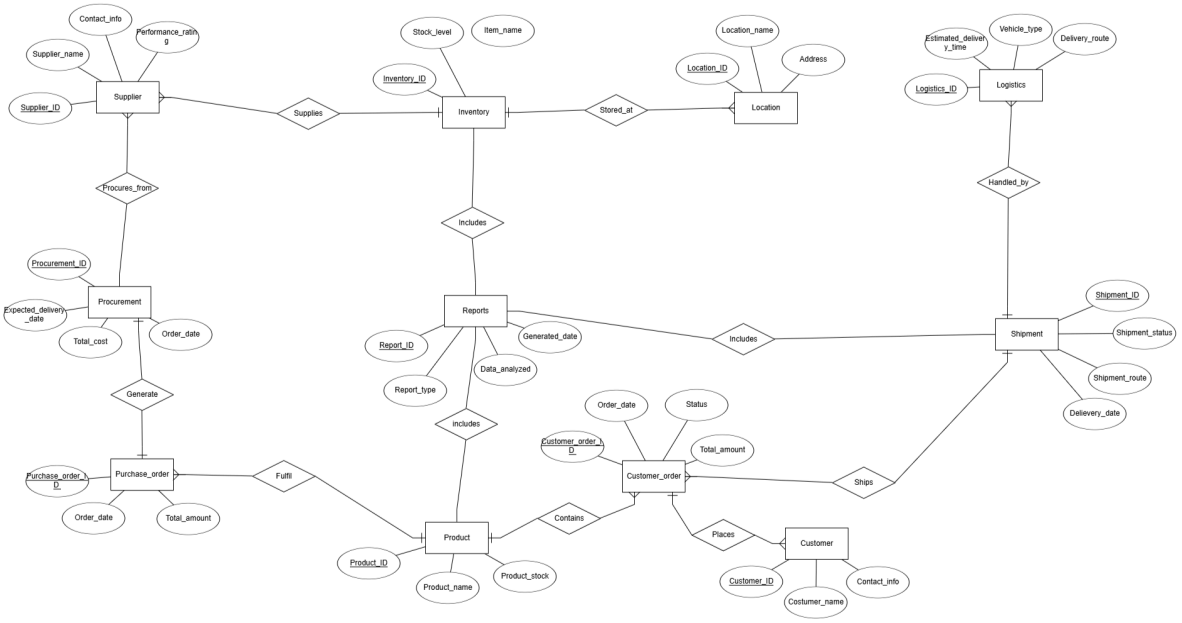
Work Breakdown Structure (WBS)



Gantt Chart



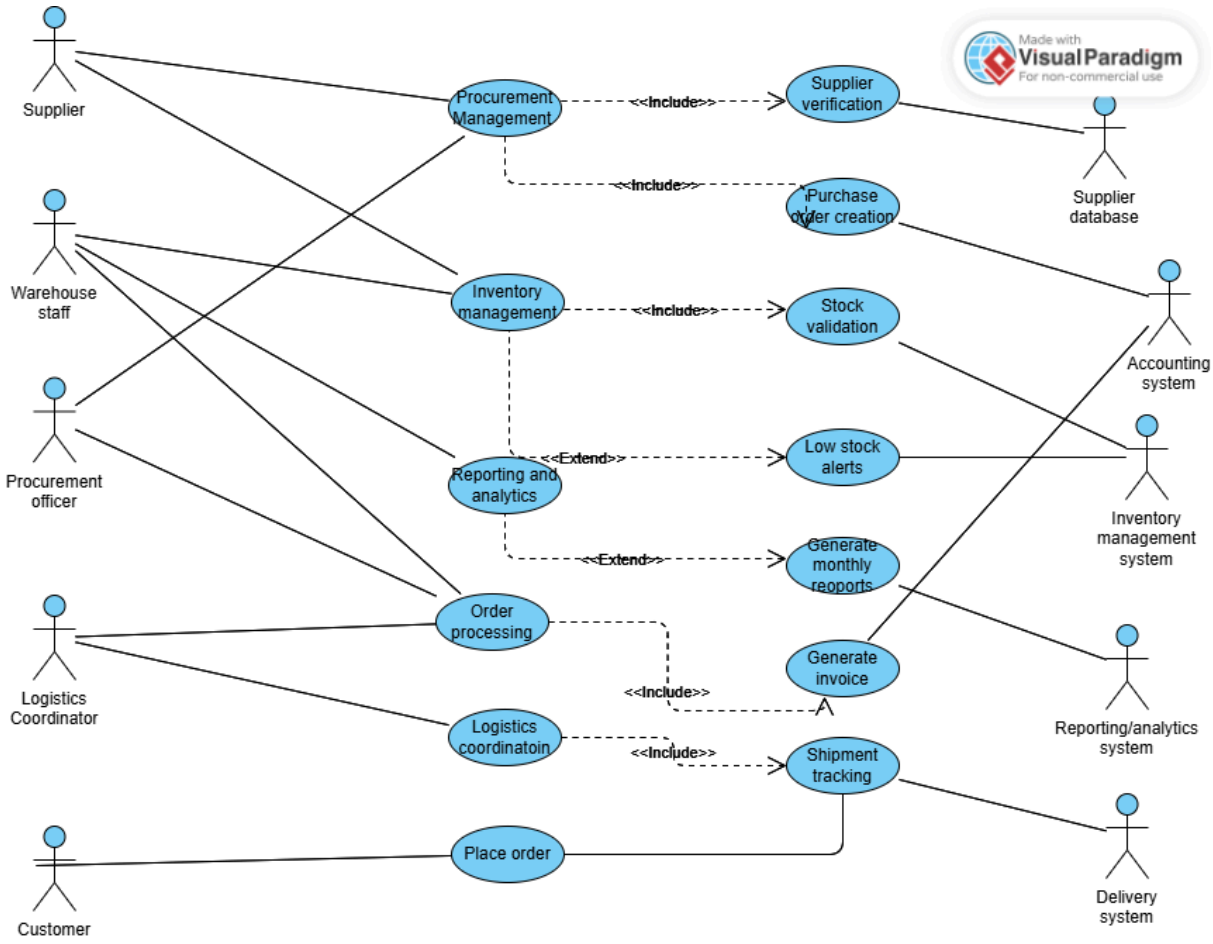
Database Design Diagram (ER Diagram):



Use Case Diagram

Inventory Management: Users (e.g., warehouse staff) can check stock levels, update movements, and trigger reorders.
Order Processing: Customer orders are entered, processed, and validated against stock levels.
Supplier Management: Procurement officers maintain supplier contracts and performance reviews.
Logistics Coordination: Delivery coordinators track shipments and optimize routes.

This diagram defines user interactions with the system. Key use cases:



Class Diagram

Inventory: Manages stock levels, movements, and reorder points.
Procurement: Handles supplier selection, orders, and tracking.
Order: Represents customer orders with related product details.
Supplier: Holds supplier information, contract details, and metrics.
Shipment: Manages shipment planning, route optimization, and status tracking.